Uranium Energy Corp

Goliad Project oliad County, Tex

Clean Energy for a Healthy Environment

www.uraniumenergy.com

An American Company developing

Uranium Energy Corp (UEC)

Goliad Project

Goliad County, Texas

Application to Conduct In Situ Uranium Recovery

July 31, 2007



August 7, 2007

Mr. Ben Knape
Underground Injection Control Program
Industrial and Hazardous Waste Permits Section
Texas Commission on Environmental Quality
112100 Park 35 Circle, Building F
Austin, Texas 78753

Re: Uranium Energy Corp (UEC) Mine Permit Application – Goliad Project

Dear Mr. Knape:

Enclosed are four copies (one original and three copies) of UEC's Permit Application to Conduct In Situ Mining of Uranium.

UEC understands that the review process involves providing TCEQ with additional information and clarification. In this regard, UEC will respond promptly to TCEQ's requests.

UEC appreciates the effort TCEQ will make during the processing of our application and we look forward to working with you.

Sincerely,

Harry L. Anthony, IV P.E.

Chief Operations Officer

Attachments: In Situ Mine Permit Application



RECEIVED

MAR 2 5 2009

WASTE PERMITS DIVISION TEXAS COMMISSION ON ENVIRONMENTAL QUALITY LLH

Texas Commission on Environmental Quality

APPLICATION FOR PERMIT TO CONDUCT IN SITU URANIUM MINING

I.	GI	ENER	AL INFO	ORMATI	ON					
	A.	Туре	e of perm	ıit:						
		1. (Original			Permi	t Number _ (Will Be Assigned	i)	_
		2. A	Amendm	ent		of Permit	Number _	URO3075		
	В.	• •			(Individua	y Corp al, Corporation		egal Entity)	·····	
		Addr	ess: <u>100</u>	East Kle	berg, Suit	e 310 (Perm	anent Maili	ng Address)		
		City:	_Kings	ville		State:	Texas	Zip: _	78363	
		Telep	hone Ni	ımber: <u>3</u>	6 <u>1.592.54(</u>	00	 	_		
		Mine	Name:	Goliad P	roject			County:	Goliad	
		Mine	Mailing	Address	(if availab	le):			·	
		Owne	ership St	atus:	·					
		Checl	k one:	Federa	1 🔲	State	Private x	Other Entir	у 🗆	
		If the application is submitted on behalf of a corporation, please identify the Charter Number as recorded with the Office of the Secretary of State for Texas.								
			36242 ter Num	ber)						
					OUE DAT		7743-	<u></u>	Revised	:3-24-2009

If the application is submitted by a corporation or by a person residing out of state, the applicant must register an Agent in Service or Agent of Service with the Texas Secretary of State's office and provide a complete mailing address for the agent. The agent must be a Texas resident.

Agent: No Change	 		
Address:			
	(Permanent Maili	ng Address)	
City:	State:	Zip:	· · · · · · · · · · · · · · · · · · ·
Telephone Number:	· · · · · · · · · · · · · · · · · · ·		

- C. List those persons or firms authorized to act for the applicant during the processing of the permit application. Also indicate the capacity in which each person may represent the applicant (engineering, geology, legal, etc.). The person listed first will be the primary recipient of correspondence regarding this application. Include the complete mailing addresses and phone numbers. Please note address change. Harry L. Anthony, COO, UEC, 100 East Kleberg, Suite 310, Kingsville, TX 78363; 361.592.5400. Overall management responsibility.
- D. Specify the individual who will be responsible for causing notice to be published in the newspaper. Include the complete mailing address, telephone number, and fax number. Please provide an e-mail address as well, if available. **No Change**
- E. For applications for new permits, renewals, and major amendments a copy of the administratively complete application must be made available at a public place in the county where the facility is located or proposed to be located for review and copying by the public. Identify the public place in the county (e.g. public library, county court house, city hall), including the address, where the application will be located. No Change
- F. If application is for amendment to an existing permit, please describe all requested permit changes and the reasons for the request: No Change
- G. Information Required for Compliance Summary No Change

Prior to May 26, 2001, the TCEQ was required to consider the compliance history of an applicant in determining whether the use or installation of an injection well for the disposal of hazardous waste is in the public interest. This requirement was amended by Senate Bill 324, enacted by the 77th Legislature, 2001, and its applicability was broadened to include all injection well applications, including those for the disposal of hazardous and nonhazardous waste and those for injection mining. In December 2001, the TCEQ adopted rules to implement this and other new requirements of the legislation. The adopted rules may be viewed at the Secretary of State's web site. The new procedures apply to any UIC applications for new permits, renewals, and major amendments which are pending on, or submitted on or after May 26, 2001 and before September 1, 2002. If necessary, these instructions will be updated to reflect procedures applicable after September 1, 2002.

The new rules set out the requirements for the preparation of comprehensive summaries of a UIC applicant's compliance history, including the compliance history of any corporation or business entity managed, owned, or otherwise closely related to the applicant. These summaries are to provide information on all media regulated by the commission including, but not limited to, underground injection, solid waste, water, and air.

To enable the executive directors's staff to prepare a comprehensive summary of the compliance history of the applicant and closely related business entities under the requirements of 30 TAC § 331.120, submit as Attachment C a list of all your company's closely related business entities currently doing business in the State of Texas. For each business entity, list any TCEQ permit numbers or authorizations for any facilities owned or managed by those closely related entities. Title 30 TAC §331.120(c) defines closely related entities as those that share common partnership members, association members, or corporate officers with the applicant, or business entities in which the applicant has an ownership interest of at least 20%.

H. TCEQ Core Data Form

The TCEQ requires that a Core Data Form (Form 10400) be submitted on all incoming applications unless a Regulated Entity and Customer Reference Number has been issued by the TCEQ and no core data information has changed and the TCEQ has issued an RN and CN for your facility, please state these numbers. For more information regarding the Core Data Form, call (512) 239-1575 or go to the TCEQ Web site at: The Core Data Form has been updated to reflect a change in UEC's mailing address. The updated form is attached. http://www.tceq.state.tx.us/permitting/central_registry/guidance.html

II. FACILITY BACKGROUND INFORMATION

- A. List all existing or pending State and/or Federal permits, licenses or construction approvals that pertain to pollution control, industrial solid waste management, radioactive materials, or other activities conducted by your facility, at your location, or existing at a proposed facility or location. No change
- · B. Brief Description of the Nature of the Business, including the activities conducted by the applicant that require a permit. No Change

C. Location No Change

- 1. Give a description and a map of the location of the facility site with respect to known or easily identifiable landmarks (see Figure 3). Detail the access routes from the nearest U.S. or State Highway to the facility.
- 2. Is the facility located on Indian lands? Yes No
- 3. Is the facility located within the Coastal Management Program boundary? Yes GNo

For questions regarding the Coastal Management Program, please call 1-800-85BEACH (1-800-852-3224).

4. Is the facility in an area in which the governing body of the county or municipality has prohibited the processing or disposal of municipal hazardous waste or industrial solid waste (see <u>Texas Health and Safety Code Section 363.112)?</u> Yes No **No Change**

If yes, please provide a copy of the ordinance or order.

5. Legal Description of Facility

- Submit as "Attachment A" a legal description(s) of the tract or tracts of land referred to in this permit application. No Change
- 6. Submit as "Attachment B" drawn-to-scale on a topographic map (or other map if a topographic map is unavailable) of the facility and area extending one mile beyond the facility boundaries. Maps must be of material suitable for a permanent record, and be on sheets 81/2 inches by 11 inches or folded to that size, and be on a scale of not less than one inch equals one mile. The scale should be adequate to depict the following features: No Change
 - a. The lease boundaries of the tract of land on which mining and related activities will be conducted, with acreage indicated;
 - b. The proposed permit area boundaries, with acreage indicated. (The permit area boundary may be defined by the operator to coincide with or be within the lease ownership boundaries.);
 - c. The location of the proposed production and disposal facilities; and
 - d. All wells (water, oil and gas, disposal, etc.), springs, other surface water bodies, and drinking water wells listed in public records or otherwise known to the applicant in the Area Of Review (AOR, an area that extends to one-quarter mile past the proposed permit boundary), and the purpose for which each water well is used [e.g., domestic, livestock, agricultural, industrial, etc. refer to 30 TAC § 305.45(a)(6)]

III. INFORMATION REQUIRED TO PROVIDE NOTICE No Change

Submit as "Attachment C" the following lists of landowners and mineral owners, cross-referenced to a map (see attached example). In addition to paper copies, an electronic copy of these names and addresses (without map and map reference numbers) must be submitted on a separate 3-1/2 inch diskette using WordPerfect7 version 8 word processing software or a 100% compatible format. Label the diskette with the applicant's name and permit number. Type the permit number and applicant's name on the top line before typing the addresses. Each entity listed must be blocked and spaced consecutively. Each name and address must be typed in the format that meets the United States Postal Service (USPS) requirements for machine readability. The letters in the name and address must be capitalized, contain no punctuation, and the two-character abbreviation must be used for the state. Examples of addresses using the USPS format may be found throughout the AINSTRUCTIONS@ section of this application form (pages i-vii). Contact the USPS for further instructions on formatting addresses for machine readability. [30 TAC § 39.405(b)]

- A. Identify and provide a complete mailing address for all landowners adjacent to the proposed permit area and other nearby landowners who might consider themselves affected by the activities described by the application.
- B. Identify and provide a complete mailing address for all mineral owners within the cone of influence as required by 30 TAC § 39.251(d)(2). If the name(s) submitted represents less than 100% mineral ownership, specify the total percentage owned by all persons identified.
- C. If the adjacent property ownership or mineral right ownership lists show the State of Texas to be an adjacent landowner and/or mineral rights owner within the cone of influence, as defined by 30 TAC § 331.2, your application may affect lands dedicated to the permanent school fund. Refer to <u>Texas Water Code</u> § 5.115. To determine whether lands dedicated to the permanent school fund are affected, you may

submit a request which includes the property location to the General Land Office at the following address:

GENERAL LAND OFFICE
DEPUTY COMMISSIONER OF ASSET ACQUISITION
STEVEN F AUSTIN BLDG
1700 N CONGRESS
AUSTIN TX 78701

If it is determined that your application may affect lands dedicated to the permanent school fund, your application must include the following information:

- 1. State the location of the permanent school fund land to be affected; and
- Describe any foreseeable impact or effect of the proposed permitted action on permanent school fund land.

A formal action or ruling by the Commission on an application affecting permanent school fund land that is made without the notice required by the above-referenced rule is voidable by the School Land Board as to any permanent school fund lands affected by the action or ruling. [Texas Water Code 5.115(g)]

- D. Provide the name and mailing address for the State Senator and State Representative in the district in which the well is or will be located. Either local district addresses or capitol addresses are acceptable. [30 TAC § 39.251(b)]
- E. Provide the name and mailing address of the mayor and health authority of the municipality in whose territorial limits or extraterritorial jurisdiction the well is or will be located, and also the county judge and the health authority of the county in which the facility is located. [30 TAC § 39.251(c)(2)]
- F. <u>Bilingual Notice Instructions</u>. For certain permit applications, public notice in an alternate language is required. If an elementary school or middle school nearest to the facility offers a bilingual program, notice may be required to be published in an alternative language. The <u>Texas Education Code</u>, upon which the TCEQ alternative language notice requirements are based, triggers a bilingual education program to apply to an entire school district should the requisite alternative language speaking student population exist. However, there may not exist any bilingual-speaking students at a particular school within a district which is required to offer the bilingual education program. For this reason, the requirement to publish notice in an alternative language is triggered if the nearest elementary or middle school, as a part of a larger school district, is required to make a bilingual education program available to qualifying students <u>and</u> either the school has students enrolled at such a program on-site, or has students who attend such a program at another location in satisfaction of the school's obligation to provide such a program as a member of a triggered district.

If it is determined that a bilingual notice is required, the applicant is responsible for ensuring that the publication in the alternate language is complete and accurate in that language. Electronic versions of the Spanish template examples are available from the TCEQ to help the applicant complete the publication in the alternative language.

Bilingual notice confirmation for this application:

1. Is a bilingual program required by the <u>Texas Education Code</u> in the school district where the facility is located? Yes No

(If NO, alternative language notice publication not required)

2. If YES to question 1, are students enrolled in a bilingual education program at either the elementary school or the middle school nearest to the facility? Yes No

(IF YES to questions 1 and 2, alternative language publication is required; If NO to question 2, then consider the next question)

3. If YES to question 1, are there students enrolled at either the elementary school or the middle school nearest to the facility who attend a bilingual education program at another location?

G Yes G No

(If Yes to questions 1 and 3, alternative language publication is required; If NO to question 3, then consider the next question)

4. If YES to question 1, would either the elementary school or the middle school nearest to the facility be required to provide a bilingual education program but for the fact that it secured a waiver from this requirement, as available under 19 TAC §89.1205(g)? Yes No

(If Yes to questions 1 and 4, alternative language publication is required; If NO to question 4, alternative language notice publication not required)

If a bilingual education program(s) is provided by either the elementary school or the middle school nearest to the facility, which language(s) is required by the bilingual program?

IV. FINANCIAL ASSURANCE No Change

Submit as "Attachment E", information regarding the financial assurance plan as referenced below.

- A. Financial Assurance Information Requirements for all Applicants
 - 1. Financial Assurance for Closure

Please refer to 30 TAC §§ 331.142-144 for the financial assurance requirements for closure, and provide a signed statement from an authorized signatory per 30 TAC § 305.44 regarding how the owner or operator will comply with this provision.

2. Provide a complete and accurate description of mine closure costs for the mining facility.



Texas Commission on Environmental Quality

APPLICATION FOR PERMIT TO CONDUCT IN SITU URANIUM MINING

I.

GEN	ERAL INFORMATION				
A.	Type of permit:				
	1. Original x	Permit Number: URO3075 (Will Be Assigned			
	2. Amendment	of Permit Number:			
В.	Applicant: <u>Uranium Energy Corp (</u> (Individual, Corporation or Ot				
	Address: 100 East Kleberg, Suite 21 (Permanent Mailing A				
	City: Kingsville,	State Texas Zip 78363			
	Telephone Number <u>361.592.5400</u>				
	Mine Name: Goliad Project	County Goliad			
	Mine Mailing Address (if available):				
	Ownership Status:				
	Check one: Federal State	Private X Other Entity			
	If the application is submitted on behalf of a corporation, please identify the Charter Number as recorded with the Office of the Secretary of State for Texas.				
	800436242 (Charter Number)				
		on or by a person residing out of state, the applicant Service with the Texas Secretary of State's office and ent. The agent must be a Texas resident.			
	Agent:				
	Address:				
	City:State	: Zip Code:			
	Telephone Number:				

C. List those persons or firms authorized to act for the applicant during the processing of the permit application. Also indicate the capacity in which each person may represent the applicant (engineering, geology, legal, etc.). The person listed first will be the primary recipient of correspondence regarding this application. Include the complete mailing addresses and phone numbers. Harry Anthony, COO, UEC, 100 East Kleberg, Suite 210, Kingsville, TX 78363, (361) 592.5400 Mr. Anthony has full overall management responsibility.

Josh Leftwich, Environmental Manager, UEC (address/phone/fax - same as above), Capacity: company information/technical.

Craig W. Holmes 8107 Pommel Dr., Austin, TX 78759 Telephone: 512. 250.8151
Email: pommelhouse@sbcglobal.net Capacity: Regulatory/permit review/questions in general regarding the application

- D. Specify the individual who will be responsible for causing notice to be published in the newspaper. Include the complete mailing address, telephone number, and fax number. Please provide an e-mail address as well, if available. Mr. Josh Leftwich, Environmental Manager, UEC. 100 East Kleberg, Suite 210, Kingsville, TX 78363. (361) 592.5400. Fax: (361) 592.0601 Email: jleftwich@uraniumenergy.com
- E. For applications for new permits, renewals, and major amendments a copy of the administratively complete application must be made available at a public place in the county where the facility is located or proposed to be located for review and copying by the public. Identify the public place in the county (e.g. public library, county court house, city hall), including the address, where the application will be located.

 Goliad County Courthouse, P.O. Box 677, Goliad, TX 77963
- F. If application is for amendment to an existing permit, please describe all requested permit changes and the reasons for the request: N/A
- H. TCEQ Core Data Form see attached

For all applications (new, renewal, major amendment, minor amendment) submitted to the agency after May 25, 2001 complete and submit as Attachment D TCEQ Core Data Form (Form 10400) provided on the following two pages. The most current version of the TCEQ Core Data Form and instructions are available on the forms page of the TCEQ website at: http://www.tceq.state.tx.us/permitting/central_registry/guidance.html

II. FACILITY BACKGROUND INFORMATION

- A. List all existing or pending State and/or Federal permits, licenses or construction approvals that pertain to pollution control, industrial solid waste management, radioactive materials, or other activities conducted by your facility, at your location, or existing at a proposed facility or location. UIC Mine Permit, Radioactive Material License, Air Permit Exemption, Class I Waste Disposal Well Permit.
- B. Brief Description of the Nature of the Business, including the activities conducted by the applicant that require a permit. In situ uranium recovery
- C. Location
 - 1. Give a description and a map of the location of the facility site with respect to known or easily identifiable landmarks (see Figure 3). Detail the access routes from the nearest U.S. or State Highway to the facility. See attached application

2.	Is the	facility located on Indian lands? Yes No x
3.	Is the Yes	facility located within the Coastal Management Program boundary? No x
		nestions regarding the Coastal Management Program, please call 1-800-85BEACH 3-852-3224).
4.	prohib	facility in an area in which the governing body of the county or municipality has bited the processing or disposal of municipal hazardous waste or industrial solid (see Texas Health and Safety Code Section 363.112)? No x
	If yes,	please provide a copy of the ordinance or order.
5.	Legal	Description of Facility See attached application
		it as "Attachment A" a legal description(s) of the tract or tracts of land referred to permit application.
6.	topogr facility sheets	it as "Attachment B" drawn-to-scale on a topographic map (or other map if a raphic map is unavailable) of the facility and area extending one mile beyond the y boundaries. Maps must be of material suitable for a permanent record, and be on 82 inches by 11 inches or folded to that size, and be on a scale of not less than ch equals one mile. The scale should be adequate to depict the following features: See attached application The lease boundaries of the tract of land on which mining and related activities will be conducted, with acreage indicated;
	b.	The proposed permit area boundaries, with acreage indicated. (The permit area boundary may be defined by the operator to coincide with or be within the lease ownership boundaries.);
	c,	The location of the proposed production and disposal facilities; and
	d.	All wells (water, oil and gas, disposal, etc.), springs, other surface water bodies, and drinking water wells listed in public records or otherwise known to the applicant in the Area Of Review (AOR, an area that extends to one-quarter mile past the proposed permit boundary), and the purpose for which each water well is used [e.g., domestic, livestock, agricultural, industrial, etc. refer to 30 TAC '305.45(a)(6)]

III. INFORMATION REQUIRED TO PROVIDE NOTICE

Submit as "Attachment C" the following lists of landowners and mineral owners, cross-referenced to a map (see attached example). In addition to paper copies, an electronic copy of these names and addresses (without map and map reference numbers) must be submitted on a separate 3-1/2 inch diskette using WordPerfect7 version 8 word processing software or a 100% compatible format. Label the diskette with the applicant=s name and permit number. Type the permit number and applicant=s name on the top line before typing the addresses. Each entity listed must be blocked and spaced consecutively. Each name and address must be typed in the format that meets the United States Postal Service (USPS) requirements for machine readability.

The letters in the name and address must be capitalized, contain no punctuation, and the two-character abbreviation must be used for the state. Examples of addresses using the USPS format may be found throughout the AINSTRUCTIONS@ section of this application form (pages i-vii). Contact the USPS for further instructions on formatting addresses for machine readability. [30 TAC '39.405(b)] See attached application

- A. Identify and provide a complete mailing address for all landowners adjacent to the proposed permit area and other nearby landowners who might consider themselves affected by the activities described by the application. See attached application
- B. Identify and provide a complete mailing address for all mineral owners within the cone of influence as required by 30 TAC '39.251(d)(2). If the name(s) submitted represents less than 100% mineral ownership, specify the total percentage owned by all persons identified. See attached application.
- C. If the adjacent property ownership or mineral right ownership lists show the State of Texas to be an adjacent landowner and/or mineral rights owner within the cone of influence, as defined by 30 TAC '331.2, your application may affect lands dedicated to the permanent school fund. Refer to Texas Water Code '5.115. To determine whether lands dedicated to the permanent school fund are affected, you may submit a request which includes the property location to the General Land Office at the following address: The State of Texas is not a surface or mineral owner adjacent to the site.

GENERAL LAND OFFICE
DEPUTY COMMISSIONER OF ASSET ACQUISITION
STEVEN F AUSTIN BLDG
1700 N CONGRESS
AUSTIN TX 78701

If it is determined that your application may affect lands dedicated to the permanent school fund, your application must include the following information:

- (1) State the location of the permanent school fund land to be affected; and
- (2) Describe any foreseeable impact or effect of the proposed permitted action on permanent school fund land.

A formal action or ruling by the Commission on an application affecting permanent school fund land that is made without the notice required by the above-referenced rule is voidable by the School Land Board as to any permanent school fund lands affected by the action or ruling. [Texas Water Code 5.115(g)]

- D. Provide the name and mailing address for the State Senator and State Representative in the district in which the well is or will be located. Either local district addresses or capitol addresses are acceptable. [30 TAC '39.251(b)] Senator Glenn Hegar, P.O. Box 1008, Katy, TX 77492 Representative Yvonne Gonzalez Toureilles, 700 East 3rd St., Alice, TX 78332
- E. Provide the name and mailing address of the mayor and health authority of the municipality in whose territorial limits or extraterritorial jurisdiction the well is or will be located, and also the county judge and the health authority of the county in which the facility is located. [30 TAC '39.251(c)(2)] The site is not in an ETJ or municipal boundary
- F. <u>Bilingual Notice Instructions</u>. For certain permit applications, public notice in an alternate language is required. If an elementary school or middle school nearest to the facility offers a bilingual program, notice may be required to be published in an alternative language. The <u>Texas Education</u>

Code, upon which the TCEQ alternative language notice requirements are based, triggers a bilingual education program to apply to an entire school district should the requisite alternative language speaking student population exist. However, there may not exist any bilingual-speaking students at a particular school within a district which is required to offer the bilingual education program. For this reason, the requirement to publish notice in an alternative language is triggered if the nearest elementary or middle school, as a part of a larger school district, is required to make a bilingual education program available to qualifying students and either the school has students enrolled at such a program on-site, or has students who attend such a program at another location in satisfaction of the school's obligation to provide such a program as a member of a triggered district.

If it is determined that a bilingual notice is required, the applicant is responsible for ensuring that the publication in the alternate language is complete and accurate in that language. Electronic versions of the Spanish template examples are available from the TCEQ to help the applicant complete the publication in the alternative language.

Bilingual notice confirmation for this application:

1.	Is a bilingual program required by the <u>Texas Education Code</u> in the school district where the facility is located? Yes No x
	(If NO, alternative language notice publication not required)
2.	If YES to question 1, are students enrolled in a bilingual education program at either the elementary school or the middle school nearest to the facility? Yes \(\square{1} \) No \(\square{1} \)
	(IF YES to questions 1 and 2, alternative language publication is required; If NO to question 2, then consider the next question)
3.	If YES to question 1, are there students enrolled at either the elementary school or the middle school nearest to the facility who attend a bilingual education program at another location? Yes No
	(If Yes to questions 1 and 3, alternative language publication is required; If NO to question 3, then consider the next question)
4.	If YES to question 1, would either the elementary school or the middle school nearest to the facility be required to provide a bilingual education program but for the fact that it secured a waiver from this requirement, as available under 19 TAC §89.1205(g)? Yes No
	(If Yes to questions 1 and 4, alternative language publication is required; If NO to question 4, alternative language notice publication not required)
	If a bilingual education program(s) is provided by either the elementary school or the middle school nearest to the facility, which language(s) is required by the bilingual program?

IV. FINANCIAL ASSURANCE

Submit as "Attachment E", information regarding the financial assurance plan as referenced below. See attached application

- A. Financial Assurance Information Requirements for all Applicants
 - 1. Financial Assurance for Closure

- 1. Plan View A legible and reproducible plan view locating and identifying (Figure 2):
 - a. the permit area boundary;
 - b. the buffer areas:
 - c. the individual initially proposed mine areas with acreage of the areas, production and disposal facilities, depth to the production zone and mean sea level of the production zone indicated. See Figure 1.3, Project Map in the Technical Report
- B Schedule A schedule with estimated starting and completion dates of production and restoration in the mine areas identified above. See Table 8.1, Mine Plan in the Technical Report
- VIII. EXCURSION PREVENTION Provide a detailed description of the procedures to be used to prevent excursions horizontally in the production zone and vertically into non-production zones. These procedures may involve a bleed system, frequent conductivity change evaluation, water level evaluation, production volume evaluation and production adjustment, as well as procedures for maintaining a balanced wellfield. See attached Technical Report

IX. RESTORATION

- A. Provide a description of restoration procedures proposed. See attached Technical Report
- B. Provide documentation of the effectiveness of the proposed restoration procedure or a description of how this documentation will be provided. See attached Technical Report
- C. Provide a description of the proposed procedure to be used to document and report restoration progress. See attached Technical Report
- D. Provide a description of the fluid handling capacity of the disposal facilities required to accomplish restoration using the proposed restoration procedure within the time frame specified in the mine plan. See attached Technical Report, Section 10.0 and Table 10.1

X. Aquifer Exemption

Provide a complete delineation of any aquifer or portion of an aquifer for which exempt status will be necessary.

See attached	Technical Report, S	tion 14.0				
Signature:	(applicant or applicant=	s authorized agent)	7	Date:	July 27, 2007	<u></u>

I, Harry L. Anthony, P.E.	, Chief Operating Officer
(applicant)	(title)
accordance with a system designed to assur submitted. Based on my inquiry of the r responsible for gathering the information, th	Date November 3, 2009
See 30 TAC § 305.44 for who must sign. Hathe facility.	azardous waste permits must be signed by both the owner and operator of
TO BE COMPLETED BY THE APPLIC	CANT IF THE APPLICATION IS SIGNED BY AN AGENT FOR THE APPLICANT
Ĭ,	hereby designate
(applicant)	(agent)
Quality in conjunction with this request for a understand that I am responsible for the cont	for me at any hearing or before the Texas Commission on Environmental Texas Water Code or Texas Solid Waste Disposal Act permit. I further tents of this application, for oral statements given by my agent in support the terms and conditions of any permit which might be issued based upon Printed or Typed Name of Applicant or Principal Executive
	Signature
(Note: Application M	Iust Bear Signature and Seal of Notary Public)
SUBSCRIBED AND SWORN to before me	by the said Hand L. Rathan P.E. O. Chi & Olantin
on this 3rd day of Novem	by the said Harry L. Anthony, P.E. as Chief Ofersting Officer 12612
My commission expires on the	day of May , 2012.

TECHNICAL REPORT

(PARTS V - IX)



SIGNATURE PAGE

Signature of the Technical Report Supervisor

(technical report supervisor)

I, Harry L. Anthony, P.E.

The technical report of the application must be signed by the technical report supervisor. The supervisor must be a Texas licensed professional engineer, a licensed professional geoscientist, or a qualified person who is competent and experienced in the field to which the application relates and thoroughly familiar with the operation or project for which the application is made. Attach a copy of the supervisor's resume.

Chief Operating Officer

(title)

accordance with a system designed to assure to submitted. Based on my inquiry of the per responsible for gathering the information, the inaccurate, and complete. I am aware there are possibility of fine and imprisonment for known Signature	and all attachments were prepared under my direction or supervision in hat qualified personnel properly gather and evaluate the information son or persons who manage the system, or those persons directly information submitted is, to the best of my knowledge and belief, true, significant penalties for submitting false information, including the ing violations. Date November 3, 2009 St Bear Signature and Seal of Notary Public)
SUBSCRIBED AND SWORN to before me boom this day of day of My commission expires on the 9 th	the said Horny L. Anthony, P.E. 9 - Chief Operating Oxficer day of May, 2012
HARRY L. ANTHONY IV 3. 47592 CENSES SIONAL ENSINE	Notary Public in and for County, Texas County, Texas Separation of the separation

I Harry L. Anthony, P.E.	, Chief Operating Officer		
(applicant)	(title)		
accordance with a system designed to assure submitted. Based on my inquiry of the po- responsible for gathering the information, the	Date March 24, 2009 uthorized agent)		
the facility.	and operator of		
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(applicant)	(agent)		
	nts of this application, for oral statements given by my agent in support e terms and conditions of any permit which might be issued based upon Printed or Typed Name of Applicant or Principal Executive		
	Signature		
(Note: Application Mu	st Bear Signature and Seal of Notary Public)		
SUBSCRIBED AND SWORN to before me	by the said Harry L. Anthony		
on this 24 th day of March	1		
My commission expires on the9\bigcirc	day of <u>Gune</u> , <u>2009</u> .		
BONNIE TEWES Notary Public, State of Texas My Commission Expires	Notary Public in and for Kloberg County, Texas		



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MAR 20 2008

WASTE PERMITS DIVISION TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

I, Harry L. Anthony, P.E.	, Chief Operations Officer
(applicant)	(title)
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TO BE COMPLETED BY THE APPLICAT AGENT FOR THE APPLICANT	NT IF THE APPLICATION IS SIGNED BY AN
I, (applicant)	hereby designate(agent)
requested by the Commission, and/or appear for mea Quality in conjunction with this request for a <u>Texas</u> the contents of this application, for oral statements g with the terms and conditions of any permit which in	ign any application, submit additional information as may be at any hearing or before the Texas Commission on Environmental <u>Water Code</u> permit. I further understand that I am responsible for iven by my agent in support of the application, and for compliance night be issued based upon this application. ted or Typed Name of Applicant or Principal Executive Officer
Harry L. An	thony IV, P.E. Chief Operations Officer
	Signature
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My commission expires on the	day of
,	Donna Jewes
BONNIE TEWES Notary Public, State of Texas My Commission Expires June 09, 2009	Klebus County Toyer

TECHNICAL REPORT

SIGNATURE PAGE

Signature of the Technical Report Supervisor

The technical report of the application must be signed by the technical report supervisor. The supervisor must be a professional engineer, registered in the State of Texas, or a geologist. The technical report supervisor must be competent and experienced in the Class III Underground Injection Control program and be thoroughly familiar with the operation or project for which the application is made. Attach a copy of the supervisor's resume.

I, Harry L. Anthony, P.E.	, Chief Operations	Officer
(technical report supervisor)	(title)	
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Signature: Haunh	7-8	April 3, 2008
(Note: Applica	tion Must Bear Signature & Seal of Nota	ry Public)
SUBSCRIBED AND SWORN to before on this day of My commission expires on the 8	e me by the said <u>Harry L. A.</u>	2 008
on this day of _	th an	-, <u></u> -
My commission expires on the	day of	Juni la Sur Notary Public in and for
!	LEONARD G. GARCIA Notary Public, State of Texas My Commission Expires May 08, 2008	Traves County, Texas

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APR 07 2008

WASTE PERMITS DIVISION TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

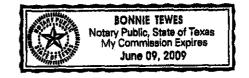
I, Harry L. Anthony, P.E.	, Chief Operations Officer
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as my agent and hereby authorize said agent to requested by the Commission, and/or appear for n Quality in conjunction with this request for a <u>Texa</u> the contents of this application, for oral statements with the terms and conditions of any permit which	sign any application, submit additional information as may be at any hearing or before the Texas Commission on Environmental as Water Code permit. I further understand that I am responsible for given by my agent in support of the application, and for compliance
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	Notary Public in and for
	LEONARD G. GARCIA Norary Public, State of Taxas My Commission Expires May 08, 2008 County, Texas

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APR 07 2008

WASTE PERMITS DIVISION TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

I, Harry L. Anthony, P.E.	Chief Operations Officer
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Certify under penalty of law that this document and all attachment accordance with a system designed to assure that qualified person submitted. Based on my inquiry of the person or persons we responsible for gathering the information, the information submit accurate, and complete. I am aware there are significant penaltic possibility of fine and imprisonment for knowing violations. Signature: (applicant or applicant's authorized agent)	onnel properly gather and evaluate the information tho manage the system, or those persons directly tted is, to the best of my knowledge and belief, true,
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Harry L. Anthon	ermit. I further understand that I am responsible for tent in support of the application, and for compliance
(Note: Application Must Bear Signature	& Seal of Notary Public)
SUBSCRIBED AND SWORN to before me by the said	June 2008 Bonnie Jules Notary Public in and for Kleberg County, Texas



TECHNICAL REPORT

SIGNATURE PAGE

Signature of the Technical Report Supervisor

Feb. 19, 2008

The technical report of the application must be signed by the technical report supervisor. The supervisor must be a professional engineer, registered in the State of Texas, or a geologist. The technical report supervisor must be competent and experienced in the Class III Underground Injection Control program and be thoroughly familiar with the operation or project for which the application is made. Attach a copy of the supervisor's resume.

I, Harry L. Anthony, P.E.	, Chief Operations Officer
(technical report supervisor)	(title)
accordance with a system designed to ass submitted. Based on my inquiry of the responsible for gathering the information,	ment and all attachments were prepared under my direction or supervision in sure that qualified personnel properly gather and evaluate the information experson or persons who manage the system, or those persons directly the information submitted is, to the best of my knowledge and belief, true, are significant penalties for submitting false information, including the mowing violations. Date: February 19, 2008
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My commission expires on the	9th day of June 2009.
, ••••••••••••••••••••••••••••••••••	Bonnie Jawes Notary Public in and for
HARRY L ANTHONY IV	Kleberg County, Texas
47592 2/5TE	BONNIE TEWES Notary Public, State of Texas My Commission Expires June 09, 2009

I, Harry L. Anthony	, Chief Operations Officer
(applicant)	(title)
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AGENT FOR THE APPLICANT	
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(applicant)	(agent)
as my agent and hereby authorize said agent to sign an	
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with the terms and conditions of any permit which might	
Printed or	Typed Name of Applicant or Principal Executive Officer
	Signature
(Note: Application Must Bear Si	gnature & Seal of Notary Public)
SUBSCRIBED AND SWORN to before me by the said _	Harry L. Anthony
on this 30th day of Janaary	,
My commission expires on the 8th d	ay of May , 200 8
	Aml h Min Notary Public in and for
AND REV.	
LEONARD G. GARCIA Notary Public, State of Texas My Commission Expires Moy 08, 2008	Travis County, Texas

TECHNICAL REPORT

SIGNATURE PAGE

Signature of the Technical Report Supervisor

The technical report of the application must be signed by the technical report supervisor. The supervisor must be a professional engineer, registered in the State of Texas, or a geologist. The technical report supervisor must be competent and experienced in the Class III Underground Injection Control program and be thoroughly familiar with the operation or project for which the application is made. Attach a copy of the supervisor's resume.

I,	Harry L. Anthony (technical report supervisor)	, Chief Operations O	fficer
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on this	30 ⁴⁴ day of	January day of May	2008
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			Tuauls County, Texas
	HARRY L ANTHONY IV		LEONARD G. GARCIA Notary Public, State of Texas My Commission Expires May 08, 2008

I, HARRY L. ANTHONY (applicant)	CHIEF OPERATIONS OFFICER
Certify under penalty of law that this document and all attachmes supervision in accordance with a system designed to assure that the information submitted. Based on my inquiry of the person of persons directly responsible for gathering the information, the inknowledge and belief, true, accurate, and complete. I am aware false information, including the possibility of fine and imprisons. Signature (applicant of applicant's authorized agent)	t qualified personnel properly gather and evaluate or persons who manage the system, or those information submitted is, to the best of my exthere are significant penalties for submitting ment for knowing violations.
TO BE COMPLETED BY THE APPLICANT IF THE APPFOR THE APPLICANT	LICATION IS SIGNED BY AN AGENT
I,hereby designate (applicant) as my agent and hereby authorize said agent to sign any applicate requested by the Commission, and/or appear for me at any hearing Conservation Commission in conjunction with this request for a that I am responsible for the contents of this application, for oral application, and for compliance with the terms and conditions of this application.	ng or before the Texas Natural Resource Texas Water Code permit. I further understand I statements given by my agent in support of the
Printed or Typed Name of Appl	licant or Principal Executive CEIVED
	Signature 0CT 1-0 2007
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My commission expires on the 8 24 day of May Notary Public i	in and for
Notary Public, State of Texas My Commission Expires May 08, 2008	County, Texas
	DUE DATE NRR
	wwc# 12139182

I, Harry L. Anthony	, Chief Operations Officer
(applicant)	(title)
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	Signature
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My commission expires on the7 +\tilde{7}	day of Botober 2010
CARLANGUE	Notary Public in and for
CARLA MOHR NOTARY PUBLIC STATE OF TEXAS My Comm. Exp. 10-07-2010	Kleberg County, Texas

I,	Harry Anthony, Applicant	Chief Operations Officer, Uranium Energy Corp (UEC) Title
superv the int person knowle	vision in accordance w formation submitted, as directly responsible edge and belief, true,	w that this document and all attachments were prepared under my direction or ith a system designed to assure that qualified personnel properly gather and evaluate Based on my inquiry of the person or persons who manage the system, or those for gathering the information, the information submitted is, to the best of my accurate, and complete. I am aware there are significant penalties for submitting the possibility of fine and imprisonment for knowing violations.
Signat		Date: July 27, 2007
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#» ———	(applicant	hereby designate (agent)
I am r applica	esponsible for the cor	njunction with this request for a <u>Texas Water Code</u> permit. I further understand that attents of this application, for oral statements given by my agent in support of the nee with the terms and conditions of any permit which might be issued based upon Printed or Typed Name of Applicant or Principal Executive Officer
		Signature
	(Note	: Application Must Bear Signature & Seal of Notary Public)
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on this	- 14	day of July , 2007
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		Notary Public in and for
		LEONARD G. GARCIA Notary Public, State of Texas My Commission Expires Manual Acceptance Analysis County, Texas

TECHNICAL REPORT

SIGNATURE PAGE

Signature of the Technical Report Supervisor

The technical report of the application must be signed by the technical report supervisor. The supervisor must be a professional engineer, registered in the State of Texas, or a geologist. The technical report supervisor must be competent and experienced in the Class III Underground Injection Control program and be thoroughly familiar with the operation or project for which the application is made. Attach a copy of the supervisor's resume.

I,	Harry Anthony,	Chief Operations Officer, Uranium Energy Corp (UEC)
	Applicant	Title
super the in perso know	rvision in accordance information submitted ons directly responsibiledge and belief, tru	w that this document and all attachments were prepared under my direction or the a system designed to assure that qualified personnel properly gather and evaluate Based on my inquiry of the person or persons who manage the system, or those for gathering the information, the information submitted is, to the best of my accurate, and complete. I am aware there are significant penalties for submitting the possibility of fine and imprisonment for knowing violations.
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		LEONARD G. GARCIA Notary Public, State of Texas My Commission Expires May 98, 2008 LEONARD G. GARCIA Notary Public in and for County, Texas

HARRY L. ANTHONY, IV. P.E.

EDUCATION

M.S. in Engineering Mechanics, Pennsylvania State University, 1973 B.S. in Engineering Mechanics, Pennsylvania State University, 1969

EXPERIENCE

Chief Operations Officer – Director (2006 – Present)

Uranium Energy Corporation Kingsville, Texas

Consultant - Part Time (1997- 2006)

Anthony Engineering Services Kingsville, Texas

Consultant for several major uranium companies and international agency. Project evaluation, operations "trouble shooter," and technical and financial expert.

Sr. Vice President (1990-1997)

Uranium Resources, Inc Kingsville, Texas

Responsibilities included: oversight of construction, technical aspects, and daily operations of plants and wellfields; budget planning and forecasting; property evaluations; and reserve estimations. Managed all facets of operations and technical support to achieve production goals: drilling, ion exchange, reverse osmosis, software development, and equipment design. Served on URI Board of Directors from 1984-1994.

Vice President, Engineering (1984-1990) Engineering Manager (1978-1984) Uranium Resources, Inc. Kingsville, Texas

Evaluated properties for development. Planned and managed reserve delineation programs. Planned, drilled and implemented construction of wellfields. Performed engineering design and managed development of ISL recovery facilities.

Designed, procured, built and operated:

1979 - URI/Coastal States Bruni ISL Project -- Texas, 500 gpm

1980 - URI/Conoco/Framco Benavides Project -- Texas, 850 gpm

1981 - Tenneco's West Cole Project-Texas, 1500 gpm (URI full turnkey contract)

1982 - URI North Platte Pilot - Wyoming, 50 gpm

1987 - URI Kingsville Dome Project - Texas, 5,500 gpm

1990 - URI Rosita Project - Texas, 3,800 gpm

Project Superintendent (1976-1977)

Union Carbide Corp. Benavides, Texas

Operated pilot plant and commercial facility at Palangana ISL uranium recovery project. Responsible for plant and wellfield operations.

Project Engineer (1970-1976)

Union Carbide Corp. Marietta, Ohio

Performed work related to: electrolytic chromium processing involving hi-carbon ferrochrome dissolution with H_2SO_4 vacuum crystallization, and electrowinning of high purity chrome used in the making of stainless steels; and tantalum/columbium extraction utilizing HF and H_2SO_4 leach, solvent extraction, precipitation, and calcining to recover rare earths from tin slags smelted in Thailand.

Harry L. Anthony, IV, P.E.

Selected Uranium In-Situ Leach (ISL) Projects

COUNTRY	PROJECT DESCRIPTION	CLIENT
u.s.A.	Feasibility Study of Gas Hills Project, Wyoming	Uranium Resources, Inc.
U.S.A.	Feasibility Study of Tennessee Valley Authority's Morton Ranch Property, Wyoming	Uranium Resources, Inc.
U.S.A.	Feasibility Study of Power Resources Inc.'s Highland Operations, Wyoming	Uranium Resources, Inc.
U.S.A.	Feasibility Study of COGEMA's Alta Mesa	Uranium Resources, Inc.
U.S.A.	Evaluation of Mobil's Holiday-El Mesquite Project,	Urangesellschaft
U.S.A.	Feasibility Study of Crow Butte ISL Operations, Nebraska	Uranium Resources, Inc.
Mongolia	Feasibility Study for the Haraat ISL Project, Gobi Desert	Uranium Resources, Inc.
U.S.A.	Feasibility Study of Kingsville Dome Project, Texas	Uranium Resources, Inc.
U.S.A.	Feasibility Study of Rosita Project, Texas	Uranium Resources, inc.
U.S.A.	Feasibility Study of Reno Creek Project, Wyoming	Energy Fuels
U.S.A.	Feasibility Study of Bruni Project, Texas	Uranium Resources, Inc.
U.S.A.	Feasibility Study of Benavides Project, Texas	Uranium Resources, Inc.
U.S.A.	Feasibility Study of HRI's Churchrock Project	Uranium Resources, Inc.
U.S.A.	Feasibility Study of HRI's Crownpoint Project	Uranium Resources, Inc.
U.S.A.	Feasibility Study of Conoco's Trevino Project, TX	Urangeselischaft
U.S.A.	Provided technical advice for Smith Ranch wellfield	Rio Algom Mining Corp
Australia	Feasibility Study of Heathgate's Beverley ISL Project	Heathgate Resources Pty
U.S.A.	Evaluation of Properties and Claims. Wyoming	Kennecott
U.S.A.	Provided technical advice for Alta Mesa permitting.	Mestena Uranium LLC
Australia	Evaluated a major mining project for a major third party.	Anderson & Schwab
Kazakhstan	Resource analysis of Irkol, A Kazatomprom project.	ltochu
Uzbekistan	Navoi Mining & Metallurgical Combine	Nukem
U.S.A.	Hosta Butt, Hansen Project review	Quincy Resources
U.S.A.	Unidentified South Texas project	Uranium Energy Corp
U.S.A.	Provide technical advice for multiple projects	Energy Metals Corp.

PUBLICATIONS AND PRESENTATIONS

"ISL Wellfield Reserves," presented at the Casper SME Uranium Conference, Casper, Wyoming, July, 2006

"ISL Pattern Reserve Requirements for Today's Spot Price," presented at The 30th International Symposium on the Process Metallurgy of Uranium, Saskatoon, Saskatchewan, Canada, September, 2000

"Economic and Technical Aspects of ISL Uranium Mining," two days of lectures sponsored by the International Atomic Energy Agency (IAEA) in Casper, Wyoming for third world mining representatives, September, 1998.

"Radiation Workshop," organized and produced this one day seminar at Univ. of Texas Health Science Center, San Antonio, Texas, 1983.

"Wellfield Operations," 3rd Annual Uranium Seminar, Casper, Wyoming, 1979.

"Polythionate Poisoning of IX Resins," Presentation at 2nd Annual Uranium Seminar, Corpus Christi, Texas, 1977.

MEMBERSHIPS

Registered Professional Engineer, State of Texas #47592
President, Kingsville Council of the Navy League, 1999, 2000, 2002, 2003
President, Kingsville Chamber of Commerce, 1995-1996
President, Kingsville Rotary Club, 1987-1988
President, South Texas Section of AIME, 1984 and 1987
Member, Kieberg County United Way Advisory Committee, 1998-2005
Board Member, Kingsville Chamber of Commerce, 1990-2000
Board member, Kingsville Council of the Navy League 1998-2006

AWARDS

Distinguished Member of the South Texas Mineral Section of AIME – 1987 1999 Outstanding Citizen of the Year – Kingsville Chamber of Commerce Scroll of Honor, 2004 – United States Navy League

TABLE OF CONTENTS

Section		
List o	of Figures	įv
List o	of Tables	vii
Proje	ect Overview	Viii
1.0	Site Location and Description	1-1
2.0	Land and Mineral Ownership	2-1
	2.1 Ownership Adjacent to the Permit Area	2-1
	2.2 Ownership within the Permit Area	2-1
3.0	Land Use	3-1
4.0	Water Well Inventory	4-1
	4.1 Methods	4-1
	4.2 Existing Water Wells	4-2
5.0	Water Use and Water Quality	5-1
	5.1 Water Use	5-1
	5.2 Local Water Quality	5-1
	5.3 Permit Area Baseline Water Quality	5-11
6.0	Hydrology	6-1
	6.1 Regional Hydrology	6-1
	6.1.1 Regional Hydrostratigraphic Framework	6-1
	6.2 Permit Area Hydrology	6-7
	6.2.1 Permit Area Production Zone Sands	6-14

ClussIII

TABLE OF CONTENTS (Continued)

Seci	ion		Page
7.0	Geol	ogy	7-1
	7.1 F	Regional Geology	7-1
	7.1.1	Regional Stratigraphy	7-1
	7.1.2	Regional Structural Geology	7-9
	7.1.3	Regional Seismic Activity	7-16
	7.2 F	Permit Area Geology	7-16
	7.2.1	Permit Area Stratigraphy and Lithology	7-19
	7.2.2	Permit Area Structural Geology	7-22
8.0	Mine	Plan	8-1
	8.1	Construction	8-1
	8.2	Operations and Restoration	8-1
	8.3	Well Plugging	8-4
9.0	Wellf	ield and Satellite Plant Details	9-1
	9.1 V	Vellfield and Operation Description	9-1
	9.2 S	atellite Plant Description	9-3
	9.3 P	rocess Description	9-5 = a-4 , + a. 5
	9.4 S	pill Control	9-8 9-9
	9.5 ₹	ain and Emergency Operations	9-10
	9.6 T	ypical By-product Wastewater Composition	9-10 -9-13
	9.7 V	Vell Completion, Construction and Mechanical Integrity	9-12 \ 3
	9.7.1	Construction and Completion	9-12
	9.7.2	Mechanical Integrity Testing	9-14
	9.7.3	Excursion Prevention and Corrective Action	9-14

Revised: October 29, 2009

TABLE OF CONTENTS (Continued)

Section		Page
10.0	Fluid Handling Capacity vs. Requirements	10-1
	10.1 Estimate of Fluid Production and Fluid Disposal	10-1
11.0	Hydrologic Testing	11-1
	11.1 Hydrologic Test Preparation	11-1
	11.2 Hydrologic Test Procedure	11-3
	11.3 Barometric Pressure Corrections	11-5
12.0	Restoration Effectiveness and Restoration Demonstration	12-1
13.0	Restoration: Well Plugging and Abandonment	13-1
14.0	Proposed Aquifer Exemption Designation	14-1
App	endices	
Apper	ndix A: Laboratory Reports on Water Quality	
Apper	ndix B: Well Logs/Completion Reports	

Appendix C: Oversize Maps and Figures

Appendix D: Cross-section Logs

LIST OF FIGURES

Figure	Page
1,1 General Project Location	1-2
1.2 Project Site Within Goliad County	1-3
1.3 Project Map .,,	Appendix C
1.4 Artificial Penetrations Map	Appendix C
2.1 Adjacent Surface and Mineral Ownership	2-10
2.2 Permit Area Survey	2-11
2.2A Internal Ownership	2-13
3.1 Non-Freshwater Artificial Penetrations within 0.25 Miles of the	
Permit Boundary	3-6
3.2 Land Use Aerial Photograph	Appendix C
4.1 Water Well Inventory Map	Appendix C
5.1 UEC's Baseline Wells,	Appendix C
5.2 TDS Contour Map	Appendix C
5.3 Sand A TDS Contour Map	Appendix C
5.4 Sand B TDS Contour Map	Appendix C
5.5 Sand C TDS Contour Map	Appendix C
5.6 Sand D TDS Contour Map	Appendix C
6.1 Physiographic Regions of Texas	6-2
6.2 Regional Hydrostratigraphic Framework for Texas Coastal Plain	63
6.3 Dip Oriented Cross-section showing Regional Hydrostratigraphic	
Framework	6-4
6.4 Hydrostratigraphic Column for Goliad County Texas	6-6
6.5 Regional Dip Oriented Hydrogeologic Cross-section for	
Goliad Çounty Texas	6-8
6.6 Regional Strike Oriented Hydrogeologic Cross-section for	
Goliad County Texas	6-9
iv Re	vised: 1-29-08

LIST OF FIGURES (Continued)

Figure	Page
6.7 Cross-section Index Map	Appendix C
6.8a Permit Area Dip Oriented Cross-section (A-A')	Appendix C
6.8b Permit Area Dip Oriented Cross-section (A'-A")	Appendix C
6.9a Permit Area Strike Oriented Cross-section (B-B')	Appendix C
6.9b Permit Area Strike-Oriented Cross-section (B'-B")	Appendix C
6.10 Permit Area Strike Oriented Cross-section (C-C')	Appendix C
6.11a Permit Area Strike Oriented Cross-section (D-D')	Appendix C
6,11b Permit Area Strike Oriented Cross-section (D'-D")	Appendix C
6.11c Permit Area Strike Oriented Cross-section (D"-D"")	Appendix C
6.12 Permit Area Dip Oriented Cross-section (E-E')	Appendix C
6.13 Permit Area Dip Oriented Cross-section (F-F')	Appendix C
6.14 Sand A Structure Map	Appendix C
6.15 Sand A Isopach Map	Appendix C
6.16 Sand B Structure Map	Appendix C
6.17 Sand B Isopach Map	Appendix C
6.18 Sand C Structure Map	Appendix C
6.19 Sand C Isopach Map	Appendix C
6.20 Sand D Structure Map	Appendix C
6.21 Sand D Isopach Map	Appendix C
6,22 UEC Potentiometric Surface Maps (Sands A -D)	6-19
6.23 Regional Potentiometric Surface	6-20
7.1 Geologic Regions of Texas	7-2
7.2 Regional Stratigraphic Column	7-3
7.3 Generalized Regional Dip Cross-section Texas Gulf Coast Basin	7-4
7.4 Regional Strike Oriented Cross-section	7-5
7.5 Regional Dip Oriented Cross-section	7-6
7.6 Regional Geologic Map	7-10
7.7 Geographic Extent and Strugtural Regions in the	
Gulf of Mexico Basin	7-11

LIST OF FIGURES (Continued)

Figure	Page
7.8 Principal Sediment Dispersal Systems for Cenozoic Sediments in the	
Gulf of Mexico Basin	7-13
7.9 Map Showing the Location of Major Growth Fault Zones in the	
Texas Gulf Coast Basin	7-14
7.10 Cross-section Showing the Depositional and Structural Style	
Within the Texas Gulf Coast Basin	7-15
7.11 Map Showing Locations of Salt Deposits in the	
Gulf of Mexico Basin	7-17
7.12 Earthquake Hazard Map	7-18
7.13 Depositional Systems and Relative Sand Content of the Goliad	
Formation	7-20
9.1 Plant Facility Layout Satellite Operation	Appendix C
9.2 Process Flow Diagram Satellite Operation	Appendix C
9.3 Downhole Design Diagram	9-13
9.4 Sample Proposed Production Area Map	9-16

LIST OF TABLES

Table	Page
2.1 Adjacent Surface Ownership	2-2
2.2 Adjacent Mineral Ownership	2-5
2.3 Permit Area Lessors	2-12
3.1 Non-freshwater Artificial Penetrations within 0.25 Miles of the Permit	
Boundary	3-3
4.1 Water Well Inventory	4-3
5.1 Water Quality in Area Wells	5-2
5.2 Statistical Summary of Water Quality in Area Wells	5-8
5.3 Baseline Wells within the Permit Boundary	5-12
5.4 Statistical Summary of Baseline Wells	5-17
5.5 Comparison of Production Sand Water Quality Average Values	5-19
6.1 Production Zone Sand – Depth, Elevation and Average Thickness	6-12
6.2 Permit Area Water Levels from Baseline Wells	6-13
8.1 Mine Plan	8-2
9.1 Typical Fluid By-product Waste Composition	9-11
10.1 Fluid Handling Canacity vs. Disposal Requirements	10-2

Project Overview

Uranium Energy Corp (UEC) is developing a uranium in situ recovery (ISR) operation in northern Goliad County. Although a detailed description of the project is given in subsequent sections of this application, a brief summary of the project is provided here.

UEC began developing the Goliad Project in 2006. The project began with the acquisition and analysis of an important database which was acquired from Moore Energy. The Moore Energy database was developed in the 1980s. As with most projects supported by a solid database, the first order of business was devoted to becoming more intimately familiar with the information and to validate its worth. After UEC accomplished this first goal, an exploration program was put into action to expand the knowledge of the resource and to more precisely delineate known ore bodies. Higher precision delineation was accomplished by drilling and logging numerous bore holes proximate to earlier exploration drilling. In addition, known ore trends were expanded by supplemental exploration drilling.

Following a thorough examination of the database, and an aggressive one-year exploration program, UEC has determined that the Goliad Project is a viable and important venture. As evidenced by this application, UEC is pursuing a Mine Permit and all other authorizations that are required for uranium mining and processing.

The first phase of this project is estimated to last for 9 years. This 9 year time frame includes production and restoration. In all likelihood, the project will last much longer than this initial estimate. Exploration activities continue to show additional deposits nearby that will no doubt extend the project life well beyond an estimated 9 year life.

UEC's Goliad project will be exclusively devoted to the long-proven technique of in situ recovery (ISR). This method of mining has a minimal impact on the environment. Because it employs water wells to tap the ore resource, the removal of overburden is unnecessary and therefore physical impacts to the surface and subsurface are insignificant and transitory.

Other beneficial features of ISR technology are summarized below.

- Because the ore is recovered without removing overburden or constructing
 underground tunnels, the highly mineralized portion of the aquifer (the production
 zone) remains physically intact. In contrast, surface mining and underground
 mining significantly alter the ore zones by physically removing the material with
 heavy equipment.
- ISR does not generate a significant amount of solid waste. Again, because the
 media (the aquifer sand) containing the ore is left in place and because
 overburden is not removed, the ISR process minimizes the generation of solid
 waste.
- Uranium recovery is confined to small portions of aquifers that contain naturally
 elevated levels of uranium, radium-226 and other metals. The concentration of
 these elements far exceeds U.S. EPA Drinking Water Standards. Using water of
 this quality for other purposes such as irrigated agriculture or livestock watering
 is also not advisable. Although these small, naturally mineralized sands contain
 poor quality water, they also contain a significant energy source.
- As shown in subsequent sections of this application the ISR method employs a
 number of highly protective measures to ensure that good quality water outside
 the production zone will not be affected by the operation. Although these
 safeguards have an excellent performance record spanning 30 years,
 improvements have been made to provide additional assurance that the
 operation will not have a significant impact on groundwater quality.
- Modern ISR operations are more conservative of water consumption. Compared
 to the past, Reverse Osmosis (R.O.) is used more extensively during the mining
 and restoration phases. R.O. not only conserves water, it provides for more
 efficient ore recovery and accelerates groundwater restoration.
- In summary, UEC is engaged in an important part of the energy business. To meet future U.S. energy demands, the uranium fuel cycle must take on a larger role. The development of South Texas' extensive uranium deposits hopefully will help fulfill this much needed demand. In return, the South Texas economy will benefit through added economic diversity and good paying jobs.

Although various public benefits and interests were summarized above, the following discussion expands on this subject.

Section 27.051(a)(1) and (2) provide that "[t]he commission may grant an application . . . and may issue the permit if it finds:

- (1) that the use or installation of the injection well is in the public interest;
- (2) that no existing rights, including, but not limited to, mineral rights, will be impaired"

Section 27.051(d) directs the commission, in making its public interest determination, to consider the applicant's compliance history and whether there is a practical, economic, and feasible afternative to an injection well reasonably available. To date, as described in UEC's answer to No. 1 above, UEC has no compliance history as that term is defined in Section 27.051(d)(1).

There are alternative methods for recovering uranium that do not involve the use of injection wells – e.g., underground and surface (open pit) mining – but these alternatives are not practical, economic, or feasible in South Texas. For example, surface mining is not practical in many areas throughout South Texas because the vast majority of the ore deposits are not near the surface and the recovery cost is prohibitive in the current market; underground mining is not practical in South Texas for similar economic reasons. Both methods would entail de-watering the portions of the aquifer in which the ore is deposited. Similarly, both of these alternative methods have significantly higher production costs than in situ recovery ("ISR") and therefore, the economics of the ore reserve must be commensurately higher to make these types of recovery feasible from an economic standboint. As is true of other ISR projects, the nature of the deposits (ore grade, recoverable pounds and depth) at the Goliad Project do not lend themselves to recovery by costly surface or underground mining. In short, there is no other recovery alternative that is economically feasible.

Section 27.003 describes the other public interest considerations identified by the legislature with respect to the use of injection wells.

Maintain Quality and Prevent Pollution of Freshwater

A large portion of the Application is devoted to addressing the protection of groundwater quality. Specifically, hydrological testing to fully characterize the portions of the aquifer to be mined and the placement of monitoring wells both within and overlying the ore zones are described in Section 11; the geology and the mine area – with particular emphasis on the confining clay layers – is detailed in Section 7 and the attached cross-sections; well completion, construction, and mechanical integrity requirements are addressed in Section 9, along with measures to prevent and address excursions; Section 8 provides that reverse osmosis will be initiated during the recovery phase and that restoration efforts in each area will begin immediately after mining is concluded; and finally, well plugging and abandonment and financial assurance to guarantee proper plugging and abandonment are discussed in Sections 9 and 13. All of these measures are designed to maintain the quality of any freshwater that exists in areas surrounding the ore sands.

Public Health and Welfare

Extensive radiological modeling has shown that potential impacts to the public health and the environment are not significant. Site-specific radiological (air dispersion) modeling is being conducted and will be submitted to TCEQ as part of the multi-step permitting process. Workers are protected through compliance with numerous highly protective occupational health standards. Protective measures for workers necessarily result in a high level of protection for the general public as well. Compliance with these standards are demonstrated through (1) measurements with numerous instruments during operations; (2) bioassays; (3) unannounced inspections by the Radiation Safety Officer; (4) annual independent audits; (5) preparation of Standard Operation;

Procedures; (6) worker exposures monitored with TLD badges; (7) TCEQ inspections; and (8) record-keeping and other mechanisms that provide assurance that worker exposure to radioactive materials is kept As Low As Is Reasonably Achievable ("ALARA"). In addition, occupational health and safety statistics (by industry) show underground mining and surface mining to be in the higher risk categories as compared to ISR.

Operation of Existing Uranium Industry

In the late 1970s and 1980s, the United States was the number one producer of uranium in the world, and uranium recovery operations have been part of the Texas economy for decades. The industry creates a significant number of high paying, long-term jobs and contributes to the tax base in the largely rural communities in which it operates. For example, UEC's Goliad Project, if authorized to develop, will employ approximately 80 workers. The industry is also, obviously, a necessary link in the chain for sustaining the growing nuclear power plant demands (and power plant industry) here in Texas and the rest of the United States.

Since there is currently no practical, economically feasible alternative to ISR in South Texas, prohibiting the industry from using injection wells to recover this resource will either shut the industry in Texas down, or, if market conditions improve, force the industry to turn to more costly and invasive methods of recovery. A negative regulatory climate could also force the industry to focus its recovery activities in other uranium-rich states. Neither of these scenarios is in the public's best interest.

Economic Development

According to the Department of Energy, the National Energy Policy recommends expanding the role of nuclear energy as a major component of the United States "energy picture." Meanwhile, energy demand in the United States is expected to grow by almost 50% by 2030, according to the Energy Information Administration.

Sufficient, reasonably-priced energy is essential for economic development. Nuclear energy – and therefore recovery of uranium – is a vital part of Texas' and the United States' economic development.

Under Section 27.051(a)(2), the commission must also consider whether existing rights, including mineral rights, will be impaired. If authorized, the Goliad Project will not impair any existing rights, including mineral rights. On the contrary, it will allow the mineral owners within the permit area to utilize and benefit from their mineral rights. In addition, operations at the Goliad Project will not affect the operation of any existing exempt or permitted groundwater well located outside the permitted area. Finally, as described in Section 2 of the Application, all mineral owners within the proposed permit area also own the surface. Consequently, no surface property rights will be impaired by the Project.

1.0 Site Location and Description

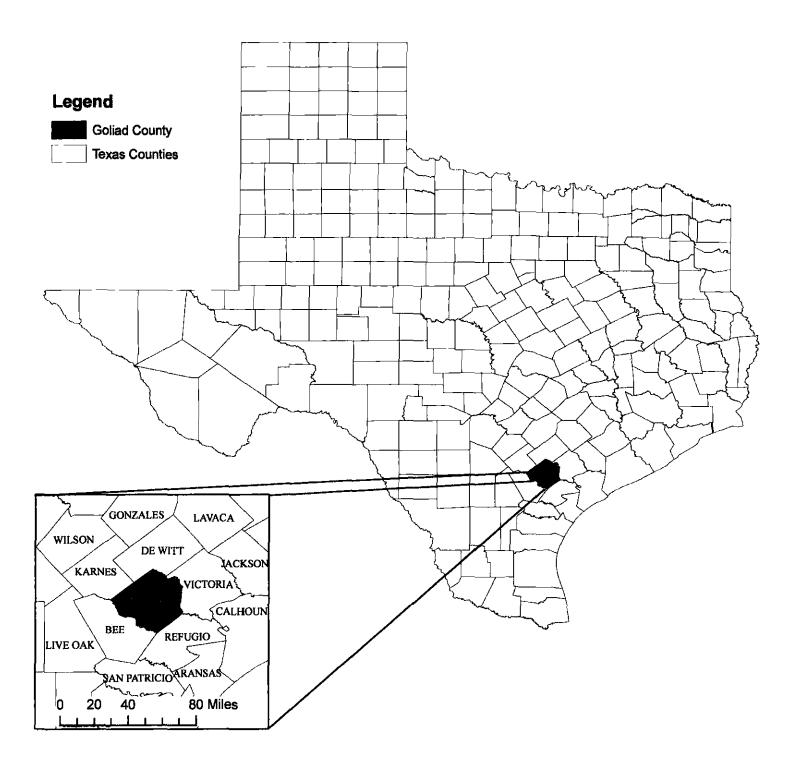
Uranium Energy Corp's (UEC) project site is located in Goliad County (see Figure 1.1 General Project Location). Locally, the project site is in northern Goliad County. As shown on Figure 1.2, the site is adjacent to and south of Fifteen Mile Creek. Fifteen Mile Creek separates Goliad County from Dewitt County. The nearest major towns are Goliad which is approximately 13 miles to the south and Cuero which is approximately 18 miles to the north.

The proposed permit area encompasses 1139.4 acres. A review of Figure 1.3 Project Map (see Map Appendix) shows the topography and drainage features of the site. Generally, the site occupies a ridge between Fifteen Mile Creek on the north and Eighteen Mile Creek on the south. Elevation across the site ranges from approximately 200 feet above mean sea level (msl) in the northeastern and southeastern sections to about 260 feet above msl in the western-most part of the permit area. The site has several intermittent drainage features and a few stock tanks. These features can be seen on Figure 1.3. The process facility will be located in the western part of the permit area at an elevation of approximately 235 feet above msl. Because of its elevated location, the facility will be protected from flooding.

Figure 1.3 also shows the location of UEC's initial production areas with respect to the process facility and the permit boundary. Currently there are four planned production areas. The approximate acreage of the initial production areas is also listed on the map, along with the average depths and average thicknesses of each production zone. The permit area shows two faults: Northwest Fault and Southeast Fault. The faults and the site-specific geology and hydrology are discussed in Sections 6.0 and 7.0. Information provided on Figure 1.3 and on Figures 3.1 and 4.1 in subsequent sections of the application has been combined and placed on Figure 1.4 (Appendix C).

Figure 1.1 Project Location





165

330



660 Miles

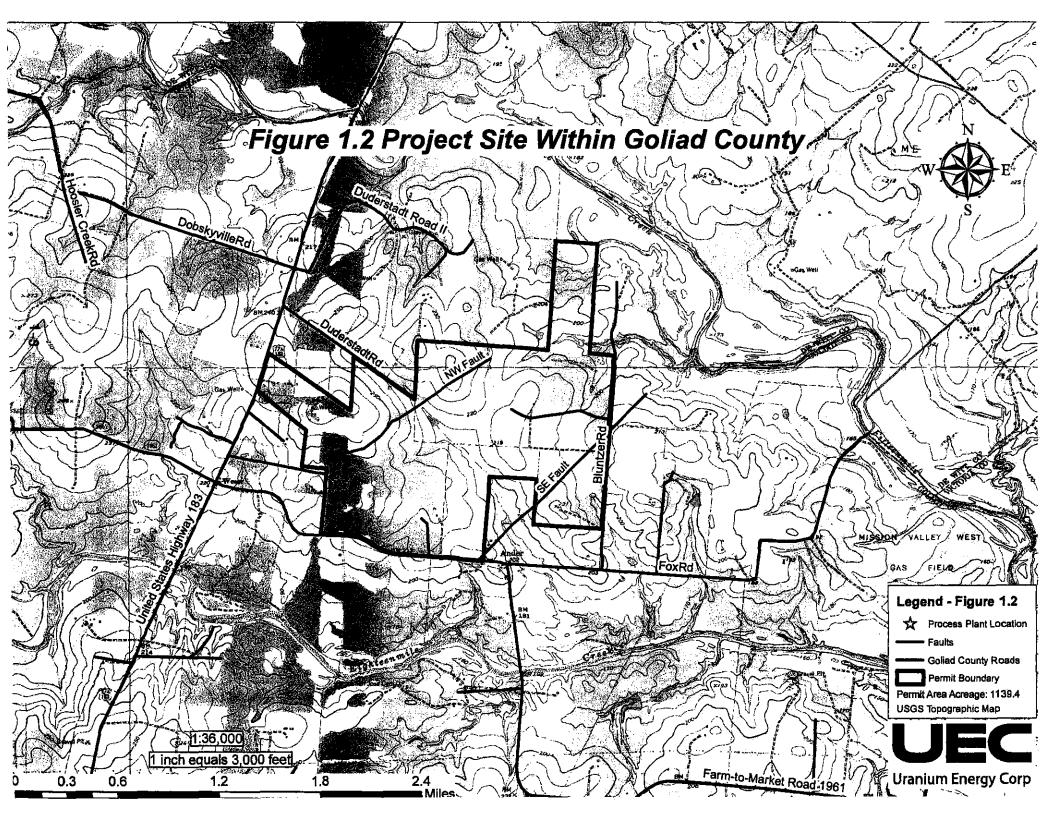


Figure 1.3 Project Map (see Map Appendix)

2.0 Land and Mineral Ownership

2.1 Ownership Adjacent to the Permit Area

Surface and mineral ownership adjacent to the permit boundary was researched through county courthouse records. Per TCEQ requirements, owners and their contact information have been summarized in Tables 2.1 and 2.2., and Figure 2.1 shows the location of the surface and mineral owners with respect to UEC's Permit Boundary.

2.2 Ownership within the Permit Area

UEC retained a professional land surveyor, Black Gold Surveying & Engineering, Inc., to survey the Permit Boundary of the project site. The results of the survey are given in Figure 2.2. As can be seen from the map, the 1140.42 acre (more or less) permit boundary is presented on the Peter Gass Survey, A-129, the Squire Burns Survey A-69 and the H.M Frazier Survey A-123 and Squire Burns Survey A-70. Surface and mineral owners within the Permit Boundary are shown on Figure 2.2A, and their contact information is listed in Table 2.3.



2-1

Revised: 1-21-08

Adjacent	Surface Owners	Acres	Interest	Survey
Tracts		7.0100	intorost	Guivey
1	James Bluntzer 1260 Bluntzer Road Goliad TX 77963 361-645-8129	80.925	1.0000	A-69
2	Margaret B. Rutherford 1256 Bluntzer Rd. Goliad, TX 77963 361-645-2083	37.721	1.0000	A-69
3	Margaret B. Rutherford 1256 Bluntzer Rd. Goliad, TX 77963 361-645-2083	11.130	1.0000	A-69
4	Joseph R. Jacob 213 N. Church Goliad, TX 77963 361-645-3519	263.000	1.0000	A-251 A-118
5	Otto Bluntzer, Jr. 95 Mariposa Dr. Rochester, NY 14624	81.249	1.0000	A-251
6	Mary Bluntzer Gray P.O. Box 876 Craig, CO 81626	81.249	A-251	
7	Diana Schrade Slafka 12800 Plymouth Circle Anchorage, AK 99516 907-344-3506	52.740	0.5000	A-70 A-129
	Sharon Schrade Bryan 8847 Wood Lane Madisonville, TX 77864 936-348-5642	52.740	0.5000	A-70 A-129
0	Diana Schrade Slafka 12800 Plymouth Circle Anchorage, AK 99516 907-344-3506 Sharon Schrade Bryan	80.200	0.5000	A-70 A-129
8	Sharon Schrade Bryan 8847 Wood Lane Madisonville, TX 77864 936-348-5642	80.200	0.5000	A-70 A-129
9	Jon Arlis Adickes 14691 FM 1346 St. Hedwig, TX 78152 210-667-1848	1.500	0.3333	A-184

	Laura Sue Adickes Rogers Route 2, Box 272 Canyon, TX 79015 806-488-2313	1.500	0.3333	A-184
	Amy Lynn Adickes Wilburn Route 3 Goliad, TX 77963 361-645-1837	1.500	0.3333	A-184
10	June Bethke 1593 E. FM 1961 Goliad, TX 77963 361-645-2708	7.922	1.0000	A-184
11	St. Peter's Lutheran Church 1545 E. FM 1961 Yorktown, TX 78164 361-645-2922	0.138	1.0000	A-184
12	St. Peter's Lutheran Church 1545 E. FM 1961 Yorktown, TX 78164 361-645-2922	4.460	1.0000	A-184
	Harold Baecker 135 N. Mesquite Victoria, TX 361-578-3738	229.860	0.2562	A-184
13	Nancy Gerhardt 3210 Knoll Manor Kingwood, TX 281-360-2102	229.860	0.6082	A-184
	Glen Baecker 1451 FM RD 1961 Goliad, TX 77963 361-645-8719 361-645-1021	229.860	0.1356	A-184
14	Randy Liesman 215 E. Edgewood San Antonio, TX 78209 210-826-0358	200.310	0.5000	A-129 A-200
14	Bruce D. Liesman 215 E. Edgewood San Antonio, TX 78209 210-826-5362	200.310	0.5000	A-129 A-200
15	Pam Long PO Box 222 Goliad, TX 77963 361-564-2214	28.126	1.0000	A-129
16	Jo Nell Martin 641 Crestview Drive Victoria, TX 77905 361-578-3926	28.126	1.0000	A-129

17	William & Diana Cheek 4617 Cobblestone Corpus Christie, TX 78411 361-986-1211	84.360	1.0000	A-129
18	Vergie Bitterly 1804 E. Locust Victoria, TX 77901 361-573-6147	70.411	1.0000	A-129 A-495 A-289
19	Deanna Wacker 1703 E. Locust Victoria, TX 77901 361-573-3625	70.411	1.0000	A-129 A-495 A-289
20	Cecilia Gleinser Edwards 50 P.R. 5711 Gonzales, TX 78629 830-672-8373	36.139	1.0000	A-129
21	Thomas & Mary Anklam 14859 N. US Hwy 77a-183 Yorktown, TX 78164 361-564-9152	20.000	1.0000	A-129
22	Michael & Kay Walker 5964 FM 1351 Goliad, TX 77963 361-645-1925	64.330	1.0000	A-129
23	Craig Layne Duderstadt 722 Duderstadt Road Yorktown, TX 78164 361-564-2081	100.000	1.0000	A-129
24	Ernest & Frances Hausman Revoacable Living Trust 103 Oxford Drive San Antonio, TX 78213 210-344-1448	261.370	1.0000	A-69
25	Diana Schrade Slafka 12800 Plymouth Circle Anchorage, AK 99516 907-344-3506	193.100	0.5000	A-69
23	Sharon Schrade Bryan 8847 Wood Lane Madisonville, TX 77864 936-348-5642	193.100	0.5000	A-69

	Table 2.2 Adjacent N	lineral Owner	hship		
Adjacent Tracts	Mineral Owners	Acres	Interest	Survey	
1	James Bluntzer 1260 Bluntzer Road Goliad TX 77963 361-645-8129	80.925	1.0000	A-69	
2	Margaret B. Rutherford 1256 Bluntzer Rd. Goliad, TX 77963 361-645-2083	37.721	1.0000	A-69	
3	Margaret B. Rutherford 1256 Bluntzer Rd. Goliad, TX 77963 361-645-2083	11.130	1.0000		
4	Joseph R. Jacob 213 N. Church Goliad, TX 77963 361-645-3519	263.000	1.0000	A-251 A-118	
5	Otto Bluntzer, Jr. 95 Mariposa Dr. Rochester, NY 1462	81.249	1.0000	A-251	
6	Mary Bluntzer Gray P.O. Box 876 Craig, CO 81626	81.249	1.0000	A-251	
7	Diana Schrade Slafka 12800 Plymouth Circle Anchorage, AK 99516 907-344-3506	52.740	0.5000	A-70 A-129	
	Sharon Schrade Bryan 8847 Wood Lane Madisonville, TX 77864 936-348-5642	52.740	0.5000	A-70 A-129	
8	Diana Schrade Slafka 12800 Plymouth Circle Anchorage, AK 99516 907-344-3506	80.200	0.5000	A-70 A-129	
0	Sharon Schrade Bryan 8847 Wood Lane Madisonville, TX 77864	80.200	0.5000	A-70 A-129	
	Madisonville, TX 77864 936-348-5642	80.200	0.5000	A-129	

	Jon Arlis Adickes 14691 FM 1346 St. Hedwig, TX 78152 210-667-1848	1.500	0.3333	A-184
9	Laura Sue Adickes Rogers Route 2, Box 272 Canyon, TX 79015 806-488-2313	1.500	0.3333	A-184
	Amy Lynn Adickes Wilburn Route 3 Goliad, TX 77963 361-645-1837	1.500	0.3333	A-184
10	June Bethke 1593 E. FM 1961 Goliad, TX 77963 361-645-2708	7.922	1.0000	A-184
11	St. Peter's Lutheran Church 1545 E. FM 1961 Yorktown, TX 78164 361-645-2922	0.138	1.0000	A-184
12	St. Peter's Lutheran Church 1545 E. FM 1961 Yorktown, TX 78164 361-645-2922	4.460	1.0000	A-184
	Harold Baecker			1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1
13	135 N. Mesquite Victoria, TX 361-578-3738	229.860	0.5000	A-184
1.5	Nancy Gerhardt 3210 Knoll Manor Kingwood, TX 281-360-2102	229.860	0.5000	A-184
	Randy Liesman 215 E. Edgewood San Antonio, TX 78209 210-826-0358	200.310	0.2500	A-129 A-200
14	Bruce D. Liesman 215 E. Edgewood San Antonio, TX 78209 210-826-5362	200.310	0.2500	A-129 A-200
	Glyn Jacobs 29930 Cibolo Ct. Fair Oaks Ranch, TX 78015 830-755-8778	200.310	0.2500	A-129 A-200
	Cynthia Gail Garrett 367 US Hwy 183S Cuero, TX 77954	200.310	0.1250	A-129 A-200

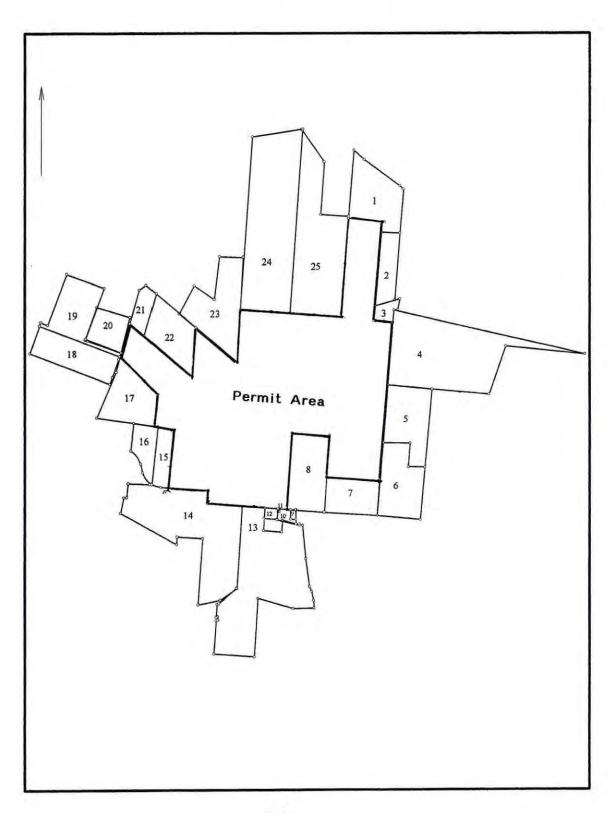
	Keith Wayne Schindler 367 US Hwy 183S Cuero, TX 77954 361-275-8076	200.310	0.1250	A-129 A-200
Cuero, TX 77954 361-275-8076 Pam Long PO Box 222 Goliad, TX 77963 361-564-2214 Jo Nell Martin 641 Crestview Drive Victoria, TX 77905 361-578-3926 Bonnie Schley Route 4, Box 46 Cuero, TX 77954	84.360	0.3333	A-129	
	641 Crestview Drive Victoria, TX 77905 361-578-3926	84.360	0.3333	A-129
	Bonnie Schley Route 4, Box 46	84.360	0.3333	A-129

	Jo Nell Martin 641 Crestview Drive Victoria, TX 77905 361-578-3926	84.360	0.3333	A-129
16	Pam Long PO Box 222 Goliad, TX 77963	84.360	0.3333	A-129
	Bonnie Schley Route 4, Box 46 Cuero, TX 77954 361-277-3083	84.360	0.3333	A-129
17	William & Diana Cheek 4617 Cobblestone Corpus Christie, TX 78411 361-986-1211	84.360	1.0000	A-129
	Vergie Bitterly 1804 E. Locust Victoria, TX 77901 361-573-6147	70.411	0.2500	A-129 A-495 A-289
18	Deanna Wacker 1703 E. Locust Victoria, TX 77901	70.411	0.2500	A-129 A-495 A-289
18	Dwane Bruns 11638 FM 622 Goliad, TX 77963 361-645-2044	70.411	0.2500	A-129 A-495 A-289
	Reta Bruns Brown Weesatche Hwy Goliad, TX 77963 361-645-3917	70.411	0.2500	A-129 A-495 A-289
	Deanna Wacker 1703 E. Locust Victoria, TX 77901 361-573-3625	70.411	1.0000	A-129 A-495 A-289
19	Dwane Bruns 11638 FM 622 Goliad, TX 77963 361-645-2044	70.411	0.2500	A-129 A-495 A-289
19	Reta Bruns Brown Weesatche Hwy Goliad, TX 77963 361-645-3917	70.411	0.2500	A-129 A-495 A-289
	Vergie Bitterly 1804 E. Locust Victoria, TX 77901 361-573-6147	70.411	0.2500	A-129 A-495 A-289
20	Cecilia Gleinser Edwards 50 P.R. 5711 Gonzales, TX 78629 830-672-8373	36.139	1.0000	A-129

	Thomas & Mary Anklam 14859 N. US Hwy 77a-183	20.000	0.0313	A-129
	Yorktown, TX 78164		3,0042	
	361-564-9152 Michael & Kay Walker 5964 FM 1351 Goliad, TX 77963	20.000	0.0938	A-129
21	361-645-1925 Edna & Russell Jarvis 2401 Repsdorph Road Kemah, TX 77565 281-326-0314	20.000	0.5000	A-129
	Jackie Parks 563 Mission Valley Road Cuero, TX 77954 361-277-8318	20.000	0.1875	A-129
	Scott & Margaret Fagan 802 N. Carancahua St., Ste 1655 Corpus Christi, TX 78470 361-992-7171	20.000	0.1875	A-129
	Michael & Kay Walker 5964 FM 1351 Goliad, TX 77963 361-645-1925	64.330	0.1250	A-129
22	Edna & Russell Jarvis 2401 Repsdorph Road Kemah, TX 77565 281-326-0314	64.330	0.5000	A-129
	Jackie Parks 563 Mission Valley Road Cuero, TX 77954 361-277-8318	64.330	0.1875	A-129
	Scott & Margaret Fagain 802 N. Carancahua St., Ste 1655 Corpus Christi, TX 78470	64.330	0.1875	A-129
23	Darwyn & Waynell Duderstadt 1708 Wise Road Yorktown, TX 78164 361-564-2958	100.000	1.0000	A-129
24	Ernest & Frances Hausman Revoacable Living Trust 103 Oxford Drive San Antonio, TX 78213 210-344-1448	261.370	1.0000	A-69
	Diana Schrade Slafka			
25	12800 Plymouth Circle Anchorage, AK 99516	193.100	0.5000	A-69
	Sharon Schrade Bryan 8847 Wood Lane Madisonville, TX 77864 936-348-5642	193.100	0.5000	A-69

p²

Figure 2.1
Adjacent Surface and Mineral Ownership
Scale: 1 inch = 2500 feet



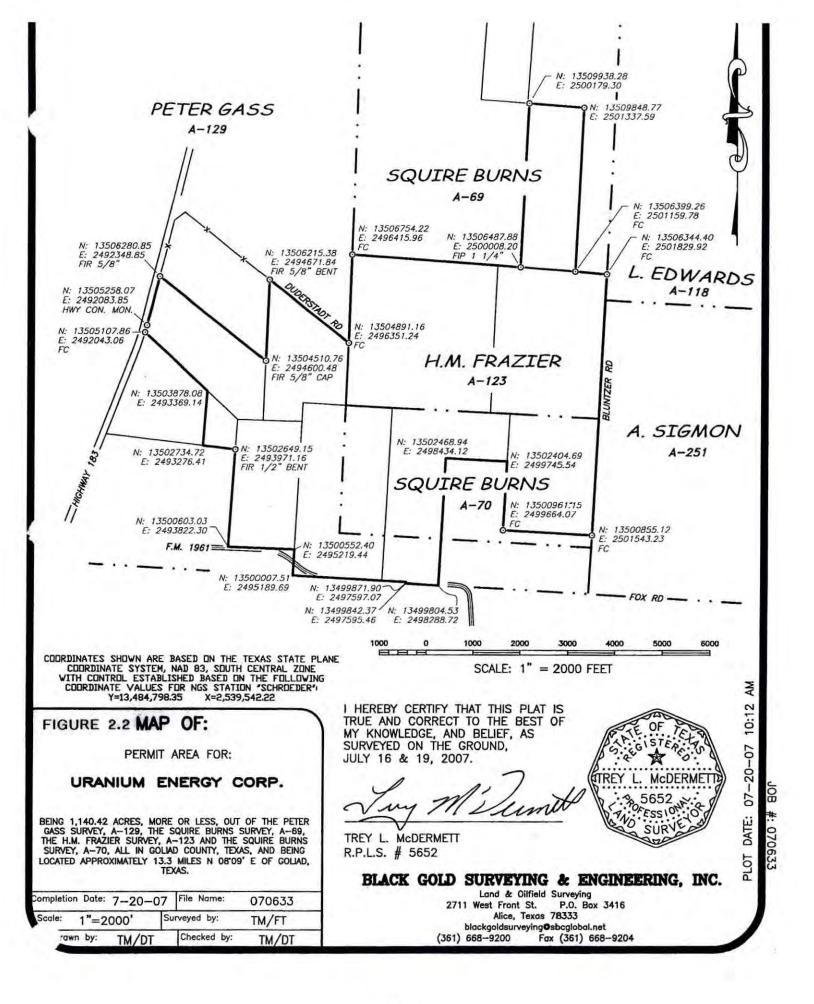
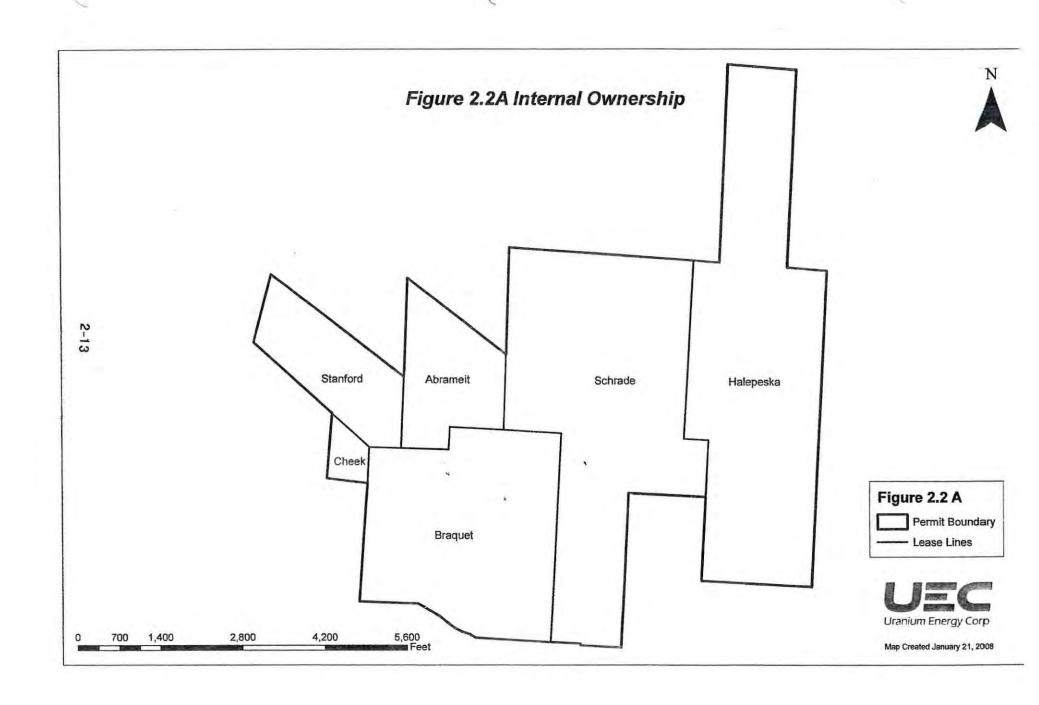


Table 2.3 Permit Area Lessors

- 1 Gary Halepeska 962 Bluntzer Rd. Goliad, TX 77963
- 2 Elder Abrameit 1005 FM 622 Victoria, TX 77905
- 3 Margaret Braquet c/o Sydney Braquet 1324 Cortland Street #1 Houston, TX 77008
- David Cheek14319 North U.S. Hwy 183Yorktown, TX 78164
- 5 R.G. Stanford695 Stanford LaneVictoria, TX 77905
- Sharon Schrade Bryan
 8847 Wood Lane
 Madisonville, TX 77864
- Diana Schrade Slafka
 12800 Plymouth Circle
 Anchorage, AK 99516

Note: See Figure 2.2A for the location of lessors.



3.0 Land Use

Land use within and surrounding UEC's project site primarily consists of oil/gas exploration and development, cropland, cattle ranching and rural residential housing. Another important land use includes uranium exploration and development. Uranium exploration land use began in the early 1980s when prices were high enough to support the industry. As prices fell below production cost, the industry went dormant until 2004. During the past few years the price of uranium has steadily climbed, and it is expected to remain at a level that will support a large industry. For this reason, uranium exploration and development has returned to Goliad County.

As required by the Texas Commission on Environmental Quality (TCEQ), a person filing a Uranium Mine Application must conduct a survey of all artificial penetrations (water wells, gas wells, oil wells, injection wells, dry holes, etc.) within the Area of Review (AOR). The AOR for the type of mining being proposed by UEC must include the Permit Area and the area within ¼ mile of the Permit Boundary. The survey must include information on the type of well or hole, the year it was drilled, its current status, its depth, the lease name and other pertinent data that can be reasonably gleaned from the public record. The data must be presented in a summary table which is cross indexed to a map showing the location of the penetrations relative to the Permit Area. The survey completed by UEC is given in Table 3.1 and Figure 3.1

As can be seen from Table 3.1, 56 penetrations were found in Railroad Commission (RRC) records. The vast majority of the penetrations are plugged gas wells and dry holes. Out of the 56 penetrations there are only 2 producing oil/gas wells (one well is west of the permit area boundary and the other is southeast of the permit boundary. There are no waste disposal wells within the AOR.

It was noted in the opening paragraph of this section that the area in and around UEC's project site is a rural setting with land uses that include agriculture, residential and oil/gas development.

With the exception of a small church and cemetery and the community of Ander (population 35), both located immediately south of the permit area, there are no commercial centers, schools or public facilities within or adjacent to UEC's site. Figure 3-2 in the Map Appendix is an aerial photograph of the project area. The photograph identifies the various land uses described herein.

Table 3.1

Non-Freshwater Artificial Penetrations within 0.25 Miles of Permit Boundary

Uranium Energy Corp

AOR	API	OPERATOR	LEASE	WELL	SURVEY	YEAR	TOTAL	WELL	RRC FORMS	Surface Casing
Map ID No.	NUMBER			NO.		DRILLED	DEPTH	STATUS	AVAILABLE	Depth (ft KB)
1	175	Edmond J. Ford Jr. & Harry W. Hamilton	A.F. Jacob	1	S. Burns A-69	1963	5,418	Dry Hole	W1, W3	260
2	17531085	Gene Martin	E.P. Tumlinson	1	L. Edwards A-118	1978	5,312	Plugged Gas Well	W1, G1, W3	536
3	17535973	Mayfair Minerals, Inc.	A.F. Jacob	.1	L. Edwards A-119	1957	8,700	Dry Hole	1, 2A, 2, 4	852
4	17531077	Edmond J. Ford Jr. & Harry W. Hamilton	A.L. Gayda	1	S. Burns A-69	1963	5,421	Plugged Gas Well	1, 2, GWT1, W3,	257
5	17500638	Edmond J. Ford Jr. & Harry W. Hamilton	Mathilde Krueger	1	S. Burns A-69	1962	5,330	Plugged Gas Well	1, 2, GTW1, W3	107
6	175	Tenneco Corporation	H.A. Bomba	2	P. Gass A129	1962	4,974	Dry Hole	1, 2A, 4	515
7	175	Claude B. Hamill	Mathilde Krueger	1	S. Burns A-69	1959	5,350	Dry Hole	1, 2A, 4	406
8	17531455	Varn Petroleum	Slafka et al	1	S. Burns A-69	1981	5,362	Dry Hole	W1, W3, W-15	532
9	17531871	Edmond J. Ford Jr. & Harry W. Hamilton	Mamie Housman	2	S. Burns A-69	1984	5,300	Plugged Gas Well	W1(2), G1(2), W3	525
10	17534186	W.C. McBride, Inc.,et al / Currie B. Davis	Mary Williams	1	S. Burns A-69	1953	4,369	Dry Hole	1(2), 2A, 4	834
11	175	Armstrong & Horn	Mary Williams	1	S. Burns A-69	1956	5,309	Dry Hole	1, 2A, 4	112
12	17533636	Modern Exploration, Inc.	Bobbe Jack	1	P. Gass A129	2004	5,400	Dry Hole	W1, W3, W15	716
13	17530329	Texas Oil & Gas Corp.	L. Renfro	1	P. Gass A129	1975	5,462	Plugged Gas Well	W1, G1, W2, W3	494
14	17530356	Texas Oil & Gas Corp.	O. Duderstadt	1	P. Gass A129	1975	5,462	Plugged Oil Well	W1(2), W2(2), W3	532
15	175-39231	Tennessee Gas Transmission Co.	Alois Gisler	1	P. Gass A129	1958	8,080	Dry Hole	1, 2A, 4	1,618
16	17532753	Allegro Investments, Inc.	Edwards Unit	Î.	P. Gass A129	1994	9,000	Producing Oil Well	W1(3), G1(2), W2	1,606
17	175-29438	Dillard & Waltermire	O.P. Jacobs Heirs	1	P. Gass A129	1946	9,020	Dry Hole	1, 2A, 4	1,618
18	17530357	Texas Oil & Gas Corp.	S. Bruns	ì	P. Gass A129	1975	5,468	Plugged Gas Well	W1, G1, W3, W15	534
19	175	Edmond J. Ford Jr. & Harry W. Hamilton	Oscar Bruns	1	P. Gass A129	1962	5,410	Plugged Gas Well	1, 2, GWT1, 2A, 4	156
20	175	Edmond J. Ford Jr. & Harry W. Harnilton	Alois Gisler	1	P. Gass A129	1961	8,515	Plugged Gas Well	1, 2(2), GWT1(2), 24	1,012
21	175	Edmond J. Ford Jr. & Harry W. Hamilton	Alois Gisler	1	P. Gass A139	1961	5,414	Plugged Gas Well	1, 2(2), 3, GWT1, 4	169
22	17530330	Texas Oil & Gas Corp.	Elder Abrameit	. 1	P. Gass A149	1975	5,462	Plugged Oil/Gas Well	W1, G1, W2, W3, W15	569
23	17533602	Modern Exploration, Inc.	Duderstadt	1	P. Gass A129	2004	5,500	Temporarily Abandoned	WI, GI	566
•					3-3					-

Table 3.1
Non-Freshwater Artificial Penetrations within 0.25 Miles of Permit Boundary
Uranium Energy Corp

AOR	API	OPERATOR	LEASE	WELL	SURVEY	YEAR	TOTAL	WELL	RRC FORMS	Surface Casing
Map ID No.	NUMBER			NO.		DRILLED	DEPTH	STATUS	AVAILABLE	Depth (ft KB)
24	17531435	Arthur Cook / Nugget Oil Corp.	Gary Halepeska et al	1	H. Frazier A123	1981	5,357	Dry Hole	W1, W3, W21	501
25	17531019	Richard Damer	Robert Halepeska	1	H. Frazier A123	1977	8,612	Dry Hole	W1, W3, W15,	801
26	17531274	Chapman Oil / TEE Operating	Jacob Gas Unit	1	A. Sigman A251	1987	9,016	Plugged Gas Well	W1, G1(2), W3, W15	1,644
27	17531881	Tricentrol Resources Inc.	Jacob	2	A. Sigman A251	1984	1,454	Dry Hole	W1, W3, W15	487
28	17531806	Tricentrol Resources Inc.	Jacob	1	A. Sigman A251	1984	1,450	Dry Hole	W1, W3, W15	297
29	17530638	Nugget Oil Corp.	Gary Halepeska et al	2	H. Frazier A123	1982	1,924	Plugged Gas Well	W1(3), G1, W3	N/A
30	17530558	Clevenger & Quigley	Sharon Schrade Boyd et al	1	H. Frazier A123	1976	5,512	Dry Hole	W1, W3,W15(2),	465
31	17534526	Texas Oil & Gas Corp.	Mathilde Krueger	1	H. Frazier A123	1964	1,715	Plugged Gas Well	1, 2, GWT1, 2A, 4	237
32	17533813	Edmond J. Ford Jr. & Harry W. Hamilton / David H Arrington Oil & Gas, Inc.	Alois Gisler	2	P. Gass A129	1964	8,518	Plugged Gas Well	1, 2, GWT1, 2A, 4	449
33	175	Edmond J. Ford Jr. & Harry W. Hamilton	Alois Gisler "B"	1	P. Gass A129	1962	5,414	Plugged Gas Well	1, 2, GWT1, 2A, 4	137
34	175	Edmond J. Ford Jr. & Harry W. Hamilton	Alois Gisler	2	P. Gass A129	1961	5,427	Dry Hole	W1, W3, W31	158
35	17532045	Nugget Oil Corp.	E. Gisler	1	P. Gass A129	1985	1,510	Dry Hole	W1, W3, W15(3),	42
36	17531659	Nugget Oil Corp.	Gleinser	2	P. Gass A129	1982	5,600	Plugged Gas Well	W1, G1, W3	402
37	17531790	Nugget Oil Corp.	Gleinser	3	P. Gass A129	1983	631	Dry Hole	W1, W3, W15	N/A
38	175	Kirby Petroleum Co.	Charles Gleinser et al	1	S. Burns A70	1950	5,614	Dry Hole	1, ?, 4	547
39	17532156	Nugget Oil Corp.	Schrade	1	S. Burns A70	1986	1,445	Dry Hole	W1, W3, W15	107?
40	17531647	Coral Petroleum Dev. Inc. / Tricentrol Resources Inc. / B.M.K. Operating Co.	Leola F. Gleinser	1	S. Burns A70	1982	5,500	Plugged Gas Well	W1(2), G1, W3	548
41	17531813	Tricentrol Resources Inc.	Tumlinson-Tolbert Gas Unit #1	2	A. Sigman A251	1984	860	Dry Hole	W1, W3, W15	337
42	17531823	Tricentrol Resources Inc.	Tumlinson-Tolbert Gas Unit #2	2A	A. Sigman A251	1984	1,451	Plugged Gas Well	W1, G1, W3	296
43	17531553	Coral Petroleum Dev. Inc.	Tumlinson	1	A. Sigman A251	1981	2,970	Plugged Gas Well	W1(2), G1(2), W3	125
44	175	Hickok & Reynolds, Inc.	M. Willms	1	A. Sigman A251	1953	5,578	Dry Hole	1, 2A, 4	610
45	17532563	Beach Exploration, Inc	Bluntzer Unit	i	A. Sigman A251	19 9 0	9,012	Dry Hole	W1, W3, W15	1,640
46	175	Hickok & Reynolds, Inc. & W.L. Pickens	Mathilde Krueger	1	P. Gass A129	1954	5,500	Plugged Gas Well	1, 2, GWT1, 2A, 4	1,643
			-		3-4	·				

Table 3.1
Non-Freshwater Artificial Penetrations within 0.25 Miles of Permit Boundary
Uranium Energy Corp

AOR	API	OPERATOR	LEASE	WELL	SURVEY	YEAR	TOTAL	WELL	RRC FORMS	Surface Casing
Map ID No.	NUMBER	or East of the second	ZZAGE	NO.	JORY EX	DRILLED		STATUS	AVAILABLE	Depth (ft KB)
47	17531492	LaTerre Resources Corp. / Coral Petroleum Dev. Inc. / B.K.M. Operating Co.	L.E. Schrade	1	P. Gass A129	1981	5,536	Plugged Gas Well	W1(3), G1(2), W3	608
48	17531742	Tricentrol Resources Inc.	Schrade	2	P. Gass A129	1983	3,000	Dry Hole	W1, W3	531
49	17533001	Tri-C Resources	Schrade	1	P. Gass A129	1997	3,510	Plugged Gas Well	W1(2), G1, W3	372
50	17531650	Nugget Oil Corp.	Gleinser Unit	1	P. Gass A129	1982	1,540	Dry Hole	W1, W3	N/A
51	17530391	Perkins Oil Company	Marjorie Baecker	1	A. Linville A184	1975	5,615	Dry Hole	W1, W3, W25	671
52	17 5 31538	Risa Energy Corp. / Petroleum Ventures of Texas, Inc.		1	A. Linville A184	1982	2,211	Plugged Gas Well	W1, G1, W3	408
53	17532173	Oil & Gas Properties, Inc.	Kamin et al	1	A. Linville A184	1986	1,510	Plugged Gas Well	W1, G1, W3	None
54	17531356	Coral Petroleum Dev. Inc. / LaTerre Resources Corp. / Wintershall Corp.	Paul Breeden	1	A. Linville A184	1981	5,508	Plugged Gas Well	W1(2), G1, W3	619
55	175	Hickok & Reynolds, Inc. & W.L. Pickens	Alois Willms	1	A. Linville A184	1953	5,494	Unknown	1, 2, GWT1	1,635
56	17533842	Pogo Producing Company	P.H. Breeden	1	A. Linville A184	2006	11,600	Producing Oil/Gas Well	Wi	N/A

Notes: N/A = Not Available

KB = Kelly Bushing

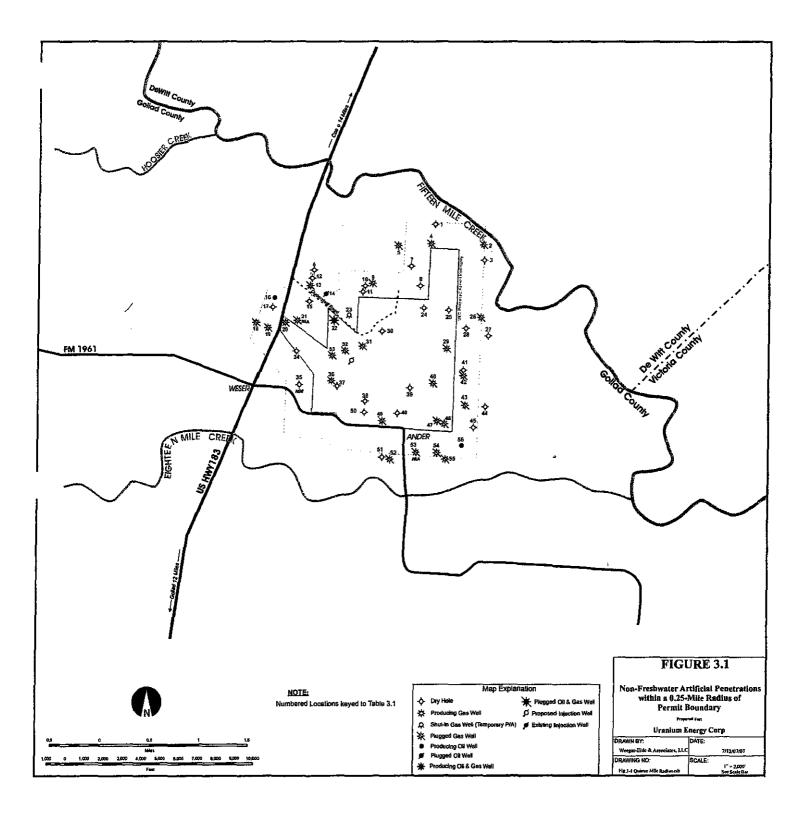
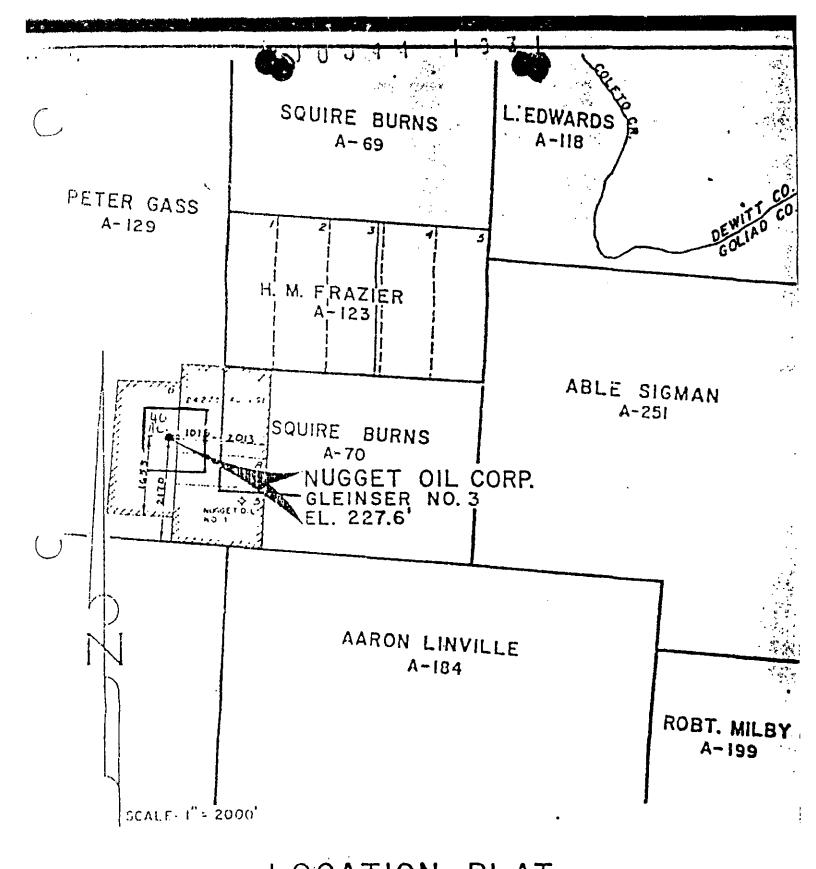


Figure 3.2 Land Use Aerial Photograph (see Map Appendix)

Attachment 1 Railroad Commission Plugging Records



OOT 2.5 1993

FOR NUGGET OIL CORPORATION

APPROXIMATELY 13 MILES NORTH OF GOLIAD, GOLIAD COUNTY, TEXAS.

RAILROAD COMMISSION OF TEXAS OIL AND GAS DIVISION

FORM W-3 Rev. 10/78

Nugget Oil Corp.	g	Name des			Number	1
6. OPERATOR NUGGOT Oil Corp. 7. ADDRESS		•		·	5. Well Numbe	••
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7. ADDRESS	-	nel Form W-1 i	Filed in Name of.		10. County	
7. ADDRESS			Corporation_	h a a chad da a a a a a a a a a a a a a a a a a	Golia	
301 Texan Trail, Corpus Christi,	6b. Any 1		L's Filed in Name o	of:	10/2	100 T
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of Lease on which this Well is Located			Gleinser		2186	- 3
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11. Depth to Bottom of Tubing or Drill Pape (6.)	565			·		
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34. Total Depth Context Fresh Water Zones by T.D.W.N. BOTTOM Depth of Deepest Fresh Water 1625 37. Name and Address of Conenting or Service company who mixed and pumped cement plugs in this well Perfection Comenting Co., Inc., Victoria, Texas 38. Names and Addresses of Surface Owner of Well Site and Operators of Offset Producing Leaves	34. Total Depth 631' Depth of Deepest Fresh Water 1625' 37. Name and Address of Connecting or Service company who mised and pumped coment plugs in this well Perfection Comenting. Co., Inc., Victoria, Texas 38. Names and Address of Sudace Connecting of Well Site and Operators of Office Producing Leaves Margaret Braquet, Surface owner - c/o Sidney Braquet, Washington & Randle - 1000 The No. Bldg., 2323 Caroline, Houston, Texas 77004-1081 Tricentral Resources - Suite 2000, Five Post Oak Park, Houston, Texas 77027. Ford & Hamilton - Box 2586, Corpus Christi, Texas 78403 Texas Oil & Gas Corp 600 CONB North, Corpus Christi, Texas 78471 39. Was Notice Given Before Plagging to Fach of the Above? Texas Notice Given Before Plagging to Fach of the Above? Texas Oil & Gas Corp 600 CONB North, Corpus Christi, Texas 78471 Date Type Logs:	1. Total Depth Other Fresh Water Zones by T.D.W.N. 35. Have all Abandoned Wells on this Lease been Plugged No. 631	I). Was Well filled with seconding to the reg	Mud-Laden Fluid.	X Y. 32. 110m		33. Mud Weight
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RAILROAD COMMISSION OF TEXAS Oil and Gas Division

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5 Field Name (Wildcat or exactly as shown on RRC records) Ander (560)		6 API No. 42- 175-317	7. Drilling Fermit No. 218665
K. Lease Name Gleinser	9 Rule 37 Case No.	10. OIL Lease Gas	ID No. 11 Well No. 3

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	Alldraf or exactly as shown on Ri	a recurs)			6 API No.	······································	7	g Permit No
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, Lease Same	Gleinser		9 Rule	- 37 Case No.	10. Oil Lease (ias II) No	11 Well No	"3 '
ASING CEMES	NING DATA	SURFACE CASING	INTER- MEDIATE	P	RODUCTION CASING		MULTI- CEMENTIN	STAGE G PROCESS
			CASING	Single String	Multiple Parallel Strin	R.	Tool	Store
2 Cementing	Date			11-8-8				
13. *Driffed b				5 5/8				
*Est % wa	ash in bide enlargement			40				
14. Size of cast	ing tin OD3			2 7/8		·		
15 Top of liner	r Itt i	ļ					•	
6 Setting dep	oth tir i			630				<u> </u>
	centralizers re-ed			4				
is the warmin	g on cement below dull out			8				
E 19 A91	cement used. No. of sacks.			60				
7	Class		<u>.</u>	C1 "H"		_		
<u> </u>	Addition			2% Ge 1				
Slurry	No of sactors					_		
2nd Slu	Class							ļ
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20 Shir	rry primped. Volume for fil 🕨			112			······································	
	Height (ft.)			Surface	-	_		
374	Volume leu fi l 🕨							
či .	Height Ift 1	1						
34	Volume for fet 🕨					_		<u> </u>
ñ	Height (ft.)			_				
10tal	Volume feu fi 1 🕨			112				
	Height (fr.)			Surface				1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
21. Was cement	t ripulated to ground surface of cellar! outside casing?	1	1	Yes	1	1		I see you a proving

JIII - 2 1984

	63		•			,		
CEMENTING TO PLUG AND ANANDON	1913/05 # 1	P1.15G * 2	PLUG # 3	PLUG # 4	PLUG # 5	PLUG * 6	PLUG # 7	PLUG B
renting date		Í				<u></u>	<u> </u>	
24. Size of bale or page plugged (in)								
25. Depth to bottom of tobing or disliping fit i								
26. Sacks of cement used teach plug) - c								
27. Slurry velume promped (cv. ft.)			•					
28 Calculated top of plug (f:)								
29. Measured top of plug of togged (f) !								
30. Storry we film gail								
31. Type tement								

CEMENTERS CENTRY ATE 1 declare under penalties prescribed in Sec. 91.143, Texas Natural Resources Code, that I am authorized in make this.

H. F. Weakly	Engineer	Тер	core,	Inc.	5	The state of the s	10			
Name and title of cementers	representative	Cementin	Company		Signatu	ire		_	$\overline{}$	
P. O. Box 6		Alice	TX	78333	512	664-9	935	11-22	83	
renth attentibit their	r ATF - Edmilann simber p krowlestenol the well der lete-torthe best of my kn	त्र आपने प्राप्तिकाण संस्थित	d in Sec. 9 presented i	in this report	and that data and		anthari.			ўT.
OPERATOR'S CENTRED results after that there the correct, and comp Wayne C. Pleace	kinneletten bereeften lete to the best of my kn	mis altimo promotilari a unich ferbeien attant was brakke - I listo dant	d in Sec. 9 presented i	i 143, Texas in this report	Natural Resource and that data and	ς « Creie, that I aπ	anthari.	red to ma	ke this	ут.
OPERATORS CENTED restlication that their free correct, and comp	kinneletten bereeften lete to the best of my kn	mis altimo promotilari a unich ferbeien attant was brakke - I listo dant	d in Sec. 9 presented i ification cr	i 143, Texas in this report	Natural Resource and that data and	Code, that I am last a presented of	anthari.	red to ma	ke this) T
OPERATOR'S CENTRED results after that there the correct, and comp Wayne C. Pleace	Frankledge of the well-dar lete: In the best of my kn my supple of other	en althe fores tiles a und telefon atten sea belge. This cert Eng. Title	d in Sec 9 presented i ification et incer	i 143, Texas in this report were all well	Natural Rewnirre and that data and data Signatu	Code, that I am last a presented of	anthari.	ent to mu cantitude	ke this) T-

Instructions to Form W-15, Cementing Report

IMPORIANT Operators and conventing companies in our comply with the requirements of the Commission's Statewide Rules & (Water Protection), 13 (Casing, Cementing, Defining and Completions and 14 (Art. Phayman For offshore operations, see the projitements of Rule 13 in).

- A. What to file. An operator who wid file arrows and and one caps of the completed Form W.15 for each comenting company used on a well. The comenting of different casting strongs of a well to some consecuting companie in in the reported on one form. Form W 15 should be filled with the following
 - * An install of on the comparison report. From W.2 on G.1, as implified by Materiale on special field rules.
 - * Form 3-4. Application for Multiple Complete in if the well is a multiple parallel casing completion, and
 - Form W.3. Progge & Proceed and excite the Consequence of W-15, in addition to form W.3, to show any raking committed in the bole.
- It Where to file, The appropriate Commissions Institut Cline by the counts in which the well is be ated
- C. Surface casing. An exercite third server is entered suffice casing to protect all usable quality water strata, as defined by the Texas Department of Water Hermitten Autours like on the living a medicians. Celebra area to which tree both taken are to effect on to which meritian executions desired enquipments are not specified to the apply after the consequence of the action of the control of the contract of Water Resources starting the protection ships in Surface costing should not be set desper-Dian 2000 feet before the operation deputy without power approval from the Commission.
- D. Centralizers. Surface course to certainbeef it the slow above and below a stage collar or diverting tool if run, and through usable quality water zones, in prophesiated below a controller count for placed exceeding the rement shorter to the ground surface or to the bottom of the cellar. All centralizers must mert API specifications
- E. Exceptions and atternative easing programs. The Institut Director may grant an exception to the requirements of Statewide Rule 13. In a written application, an operator must state the cease of the requested exception and outline an alternate program for casing and concenting through the protection depth for strata containing uselike quality water. The Desiried Director not approve modify, or reject a proposed program. An operator must obtain approval of any exception before beginning casing and cementing operations

stermediate and production casing. For specify to build requirements operators should consult Statesade Rule 13 (b) (3) and (4).

Truesing and abandoning of event places must be placed in the wellbare as required by Statemade Rule 14. The District Director may require additional coment plugs. For onshure or inlaint so its a 10-feet rement plug must be placed in the top of the well, and the casing must be cut off three feet below the ground aurface. All coment plugs except the residual must have sufficient slurry volume to fill 100 feet of bole, plus ten percent for each 1,000 feet of depth from the ground surface to the bottom of the plug

To plug and abarelon a well-operators must use only rementers approved by the Director of Field Operations. Cementing companies, service companies, or operators can qualify as 21% count correctors to demonstrating that they are able to mix and pumperment in compliance with Commission rules and regulations.

PRETURN each W-1 with plat and \$100.00 fee. Make a c money order payable to the State Tri of Tenna. Address to: Rails commité by of Texas Oil and Cas Division. Drilling Permits P. O. Drawer 12967. Capital Station

RAILROAD COMMITTION OF TEXAS . - Oil and Gas Division .

Modin, Tensis 78711. ► File a copy of W-1 and plat in RRC District Office. Applica	tion for Perinit to Drill	, Deepen, Plug Back, o	r Re-Enter			A
Purpose of filing (mark appropriate boxes):	Deepers (within casing)	litug Back er permit ist. at right & exp	He Enter	Enter here, if assigned:	► 42-	15 313
					Z	1000 I
Operator's Name legacity as shown on Form 1.5. Organization Report) Nugget Oil Corporation	3 RRC Operator No 61.6339	4 RRC District Su	5 Counts of Well No. Goldad	•	Rule 87 Ca	ar No
2. Address (including city and alp code)	ti Lease Name (32 spaces	mainumi	7 KK I	care ID Su B	Well No	u Total Legeth
301 Texan Trail, Suite 100	Gleinser	···			3 _	625"
Corpus Christi, Texas 78411	10. Location		_			
~ 0.0	Section	- Hinck Surv	Peter Ga	iss	Aleir	M1 No A 241
015720	i	ed <u>13</u> miles in a		heretum town		
	with the the twenty of	TWO IN THE TOTAL STATE OF THE WEST	0.114			
11. Distance from proposed location to nearest lease or unit line 165	3 n.	12 Number of configurous a	cres to lease posted a	mit or unitized tract	242.75	COUTLINE ON PLATA
Is. FIELD NAME (Exactly as shown on RRC proration schedule) List all established and wildcat somes of anticipated completion. Attach additional Form W-I's as needed to list	IS. Spacing	16. 17 Number of ocres in drilling unit for this well.	In this acreage analyzed to arr- other well arr this leane of its this reservoir?	S Distance from proposed kan- tion to nearest applied by, permitted us completed well.	1 5 - 1	I. No. of applied for, per- mitted, or completed locations fincheding this one) on losse is this reservoir.
these zones. One zone per line.	npletion pattern (h (ft.)	petiem OUTLINE peres ON JAAT.	is itemerius	this lease &	type well (Specify)	Off CAS
Ander (560) Field 5	60' 467/1200	40 40	Yes	None; previ	ous L	2
02617550	ļ	1275	i	, =====================================		
	Cico	90	:			N
		If a directional well show				
22 Perpendicular surface location from two nearest designated lines. • Lease Unit 1653 FSE lease line & 2013 F	E lease line		man littellier rear Shirtstill			I
• Surva Section 2170' FS survey line & 1016'	FE survey line	· Supplement Same Edition				
23. Is this a pooled unit?		24 Is item 17 iess than i	ion to outstandard	m reage for any field	applied for P	
Yes Attach Form P 12 and certified plat.i	So 💽	Yo. 14:	tach Form W. IA:		7	}
25 Is this welltwire subject to Statewide Bule 36 thistogen sulfide areal?	Yes [] V. [3]	it subject to by de les is for	न्।। मामना १ 👯 📋	N	t unt fried, e	aplain in Remarks
26 Do you have the right to develop the internals under any right of way that crosses, or is contiguous to, this tract? It not, and if the well requires a Rule 37 or 38 exception, see Instructions for Rule 37.	No X	Licente plat intermentario	tated in this applicat	len is true and comp	Here to the best	
lormarks	_	Signature			ed egwinder wie	rpresentative
There is currently a Gleinser No. 2 whi	on we are	10	19 83	(512) 854-		
in the process of plugging.	:	Date mo	day yr	Tel Area Code	Number	`
		· [185 · 66] 约。	• RRC	Use Only •	· · · · · ·	119796

RAILROAD COMMISSION OF TEXAS OIL AND GAS DIVISION

FORM W-3 Rev. 10/78

		-14.	partition of a line	TĀPI	1 NO. 42	175 31	650	I. RRC Diet	rict
					e ve lie Sie)		UOU	2	
	PLICATE WITH DISTRI S LOCATED WITHIN T						t	4. RRC Les: Number	se or id.
2. FIRLD NAME (as per RRC	C Records)	3, Leas				,		5. Well Numi	ber ·
Wildcat			inser U					1	-
6. OPERATOR	iration	1 7	inal Porm W-	I Filed In	Name of:		T	10. County	
Nugget Oil Corpo	71 Q C (UII	45 A and		7	d 1- **	-11		Goliad	
	pus Christi Tx7841	1 :	Subsequent W		0 140	. au.		5/20/8	2004
of Lease on which this We		; South Li	ine of the R	.G.Hen	cerling			164823	3 7)
P. Gass Survey		Pb. Dist.	ence end Dim	retion From Weesa	n Nearest tche	Town in thi	• }	67207	
\	th 17. If Multiple Completion L			Dil Lease a		No.'s 011-0 1 008-0	WELL.	14. Dute Dell 6/22/	ling
18. If Gas, Amt. of Cond. on		/			Zanes			15. Date Wet	Plugged
liand at time of Plugging					-I	\bot		6/22/	
CEMENTING TO PLUG				PLUG #3	PLUG # 4	PLUG #5	PLUG	16 PLUC	7 PLUG JE
*19. Cementing Date	1982.	6/22	6/22		<u> </u>	1214 4011	 		_
20, Bise of Hole or Pipe in wh		8 5/8	8.5/8		[.		
21. Depth to Bottom of Tubing		. 1540 :	100		 				
*72. Sacks of Coment Used (eas	— — , — , — — — — — 	50	130-		 	 	+	[~
*23. Sturry Volume Pumped (cu.		59 1400	172-1		 	 	+		
25. Measured Top of Plug (if t			Surface		· -	 	-		
*26. Slaney Wi. # /Onl.		15.6	15.6		<u> </u>	1	1		
*27, Type Cement		_LH	<u>lhl</u>]	II.			
28. CASING AND TUBING R	ECORD AFTER PLUGGING				Drillable	Material (Ot	het	Yes.	[X] No.
	1 14 1 1 0 0 0 11 1 1 1 1 1 1 1 1 1 1 1								
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NONE			PROI	WAT	ER BÖAF	d LETT	R DAT	Use Revers	1-80
NONE 30. LIST ALL OPEN HOLE	AND/OR PERFORATED INTE		PROI PROI	NATI WATER	ER BOAS	d LETT	R DAT	E0_7-2	1-80
JO. LIST ALL OPEN HOLE	AHD/OR PERFORATED INTE		PROI PROI	RATI M Bep	ER BÒAF thA) Exce	oded.)	R DAT	E0_7-2	1-80
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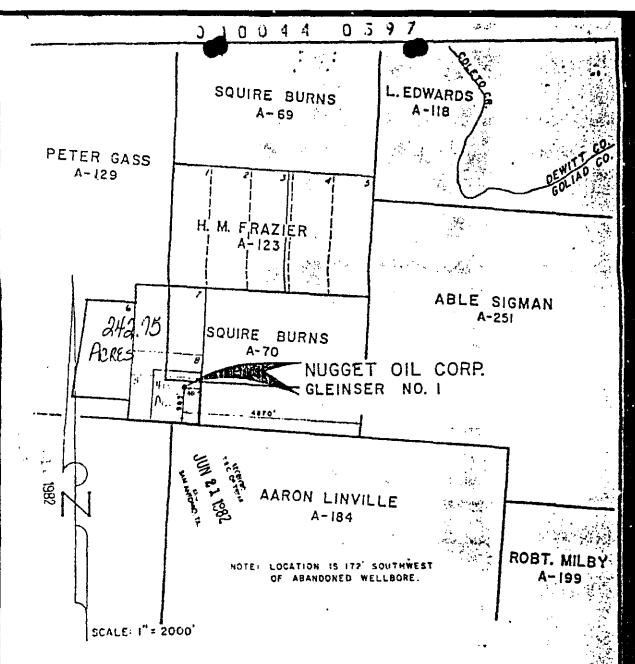
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	`				A A STATE OF THE S
			or This work is the the	Michigan Company	
		-			
i. Was Wall [liled with according to the res	guistions of the	No 32. 16	ow was Mud Applied?	to the Market	33. Mud Weight
Rajiroad Commissir	Other Fresh Water Z		Pumped	lis on this Lease been Plugge	15.6 Lns/G
1540	ТОР		#coording to RRC Rul	est v is the category.	Yes No
			36, If NO, Explain	graphics - 1 car management again at the state of the care of the	
Depth of Despest Fresh Water				tige for the state of the state	* + 1 + 1 - 1
1540				e de la companya de l	
	of Comenting or Servi	ce company who	nized and pumped cement pluge	in this well . "Her Date I	RC District Office
Halliburton	_Services	Rt6. Box	452; Victoria, Te	xas 77901	6/22/82
F. Names and Address	es of Surface Owner	of mell life and O	permises of Offset Producing La	ALCO CONTRACTOR OF THE CONTRAC	
James Kaye	Weesat	che, Texas	And the second	Section of the sectio	
			and the same of th	ر بر از در به آنه ^{ا ه} ر در از بهر باسد رسود چو در سرود.	
			Section 1		
	1.				
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39, Was Notice Given I Yes	Before Plugging to E	ich of the Almye?	A STATE OF THE STA	The second secon	•
FILL IN BELOW FOR	R DRY HOLES ONL	.Y		No. of Parties	
	s Form must be accom- nercial Log Bervices.	panied by either	Deliter's, Bisetrie, Radioactic	rity or Acoustical/Sonic Log or	such Log must be
Present to a comm		_		a significant	•
Lo	g Attached	Log released to	- Santa Fe Log Lil	prary p.	· - 5/23/82
Type Lage					•
[] Du	lier's	X Electric	Radinac	tivite	Leoustica!/Sonto
				74.7	
41. Date FORM P-8 (Special Clearance) F	lied?	• •	Constitution of the second	
42. Amount of Oil prof	uced prior to Pluggin			granding processing	
* FIL PORM P-1 (C			it was penfaced	Array States	
RRC USE ONLY	•		٠.	7 6 7 8 3	
Nearest Field	4				landida ja ja Mari a.
			* ·		
) (\$ 0	SHOUTH PACE.	
	298035			· · · · · · · · · · · · · · · · · · ·	·
#1 Cleinsc	COTP				
Goliad Coun	ty			·····	
Plug To Aba	ndon				

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Doubliky

appeterate to which the garage of

THIS A	APPLICATION MUST BE FI	LED IN C	UPLICATE				T OFFICE.	•		led .			RM W-1 1/1/81
APIN	oll No. 42 175-314	50			AD COMM IL AND G	-		#5	00	led : (Explois parks)	RRC Pons staigned.		323
	APPLICATIO	NFOR	PERMIT	TO DRIL	L, DEEPI	EN, PLUC	BACK,		NTER		7. REC DI	etmot S	1 8
	Check ant - IX DELL E.	DEEP	IN (Below Co	sinel	DREPEN (·		PLUG BACK		ENTER	Golia		
I. Op	Nugget Oil Corpo	ration	616	6339		inser Un	Spaces Mexim it	uen)	4b. RRC No.(Lease or (1) # seeigned)	1 1	ater.	1 1
2. Ad	301 Texan Trail;	Suite	Ol	5720		ass Surv	., бигтер) геу, А-12	g 👙 🔞				of Contiguous Lighty of E	
	Corps curters.	LEXAG		S 45	6, This	rell is to be	located _6		southeas	st	11. Distance to Nears (ft.)	from Propos of Loose or 1	ed Location Van Line
3. 1s	Form P=5 (Organization Report)	in Exact Of on (2) on bo	ck side.)	rnod?		-	or Trues.				12. Telef D	500	
			. 2 :: "				DEPLETION						
	- 11.	REFER T	O INSTRUI	CTIONS ON	BACK SIDI	L. READ	LAREFULLY	Y AND FURI	20.	ETE DATA	12.	T	23.
Pron) NAME (Exactly as shown on Reston Echedule Including Reserviceble.) If Wildcat, so state belo zone per line. List all zones forms to accord to	Mar A		this wellborn.	Applicable Field Rules Spacing Pattern if na Rules, State 467-1290, (ft.)	Pattern. If a	Number of Acres in Drilling Unit for this Well AND DESIGNATE ON PLAT.	entigned to another well in same yes, on same	Distance and Direction from proposed loca- tion to rearest drilling com- pleted or ap- pited for well in same res. on name lease (ft.)	2. Rule 37 Esc. Loca-	Oil, Gos, or other Type Well (Specify)	pormitted of far, location in the second in the far which the is a cought?	ont on this me reservate this permit
	wildcat	751	1500	None	467/1200	40	212.15	No	None	Regular I X Rule 37 2	0117 Gas	Kone	None
-	Hada Goda				•	/i	, 7	بر.		Regulari Rule 37 8		MICHEL W	
			:			9				Regular I Rule 37 2	"	N 21 19	82
	Mark to	•			• .	;		ŕ		Regular 1 Rule 37 2		TEN SHICKAGE	TE.
A. Les B. Sur 27, 1s	ese Lines 467 FEL & Court of FEL & C	983' FSI 983' FS	of R. C	er Gaas S Substandard	ing, et Survey, A-	-127		(a) is this well to SWR 16: to SWR 16: (b) if subjects Form if-9: if now attent			26. Do you a of this w in any p listed in a Rule 3: la prese attach a	nticipate futurellbare to consecuted sec. Calana 13, for for Rule 28 ex mally required list of such lastruction \$	ge tas Yes poster to the tast of the tast of the tast of the tast of t
to pro	LLOWABLE WILL BE ASSIGNE tect all fresh water sands. When it will be necessary to contact the pith to which fresh water sands a	HOTI D to any well ery Commiss Towns Water	l which does non rules do : Development	not have suffic not specify sur Board, Austin,	rient surface t face cosing re Texas, to as	casing quire- certain		Code, that I	der penalties pr am sufficieed der fly auperv rue carrect, an	to make this Mion and_dire	ec, 91.143, report, the retion, and	t this report that data and	was prepertd facts states
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LOCATION PLAT FOR NUGGET OIL CORPORATION

GLEINSER NO I LOCATED IN THE PETER CASS SURVEY A-129 APPROXIMATELY
13 MILES NORTH OF GOLIAD, GOLIAD COUNTY, TEXAS.

SURVEYED ON THE GROUND APRIL 23, 19-12 UNDER MY SUPERVISION AND CERTIFIED TO BE CORRECT AS SHOWN.

FIELD WORK BY: BILL MEIDER, JR.

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MAP ID #38

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APPLICATION TO PLUG MANUEL OF FEORE PARTON COMME Petroleum Company Addres P. O. Box 1745, Houston Collad Burrey Sciire Burns A 70 . h. Well No. 1 225.23 Charles Coinser et ur No of Acres 52.7 Direction from Meser, Texas Na-"Natice of Intention to Dritt," was filed in name of Kirby Petroleum Company **F** ... Dr. ever produce : -12/lio. · No · He-41.5 er of Well Holl, Gamer Dryl ... Dry August 18 with to i'. ig Date Par Playing Wet Diritings & Holland Drlg. Coaddress Mission, Tel Na Certi F. O. F. 1765, Houston 1, Texas Add: CASING RECORD ... None Conofited w/ 175 sx.com F CASING WAS CEMENTED GIVE NUMBER OF SACKS USEDION

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4.0 Water Well Inventory

4.1 Methods

One of the required elements of an application for an in situ uranium recovery operation is a water well inventory. The area that must be included in the inventory is described in 30 TAC Rule § 331.42 Area of Review (AOR). For a Class III Area Permit, the AOR must encompass an area extending at least a ¼ mile beyond the permit boundary. In developing the water well inventory, UEC extended the AOR to a distance of 1 km beyond the permit boundary, or nearly 2.5 times the required minimum distance. Records were also reviewed for municipal water supply wells within 5 miles of the site.

After mapping the AOR, a search was made in the Texas Water Development Board's (TWDB) Water Information Integration and Dissemination (WIID) database for wells of record. Information obtained from this source was combined with data from water well drilling reports. Although the TWDB database provides extensive information on water wells such as location, ownership, water quality, date drilled, use, etc., a significant number of water wells remain unrecorded. The primary reason for wells not being in the system can be attributed to the fact that they were completed prior to the development and implementation of rules requiring documentation. Knowing this, UEC supplemented the records with information gathered during the field reconnaissance phase. The reconnaissance involved driving throughout the AOR to visually spot a well or a feature that would likely have a well associated with it. Upon completion of the steps just described, plans were made to contact the well owners to obtain permission to sample their wells.

UEC's land experts began contacting well owners approximately two weeks prior to sample collection. The sampling effort was completed between December 13, 2006 and January 3, 2007. The first day was devoted to obtaining sample containers and ice chests and calibrating instruments.

The protocol that was followed for sample collection, preservation and reporting was based on TCEQ's Technical Guide 1 Groundwater Analysis and U.S. EPA's Methods for Chemical Analysis of Water and Wastes. The methods given in these two documents are briefly summarized below.

Before collecting a water sample the well should be allowed to run for a sufficient period of time to ensure stability. Stability is verified by recording three to four measurements of pH, temperature and conductivity. When these parameters become reasonably stable in a natural range, a sample can be collected. Upon collection, samples should be preserved using appropriate EPA methods.

Using the above guidance, wells were allowed to run for 20 to 25 minutes. During this time, a minimum of three readings were taken for pH, conductivity and temperature. After the values became stable, a sample was collected. Immediately upon collection, samples were placed in ice and delivered to Jordan Laboratories in Corpus Christi on the same day, along with a chain of custody.

While collecting samples, efforts were made to obtain as much information as possible about the wells by interviewing the owners. Important information included well depth, use (domestic, livestock, agricultural, etc.), aquifer, screened interval, pump setting, lift method, water level, chemical analysis, date drilled and casing material. In addition to this, UEC recorded the location of each well using a GPS instrument.

4.2 Existing Wells

Unfortunately, details on wells, especially older wells, are somewhat limited, and comprehensive chemical analyses are almost always non-existent. Even modern water wells often lack detailed chemical analysis. The information database on the water wells within a 1 km radius of UEC's proposed permit boundary was significantly expanded when UEC completed the survey and sampled the wells. Table 4.1 provides a summary of well ownership, use, depth, aquifer name, and a few other details, and Figure 4.1 shows where the wells are located with respect to the proposed permit boundary.

Table 4.1 Water Well Inventory

Well U Name	lse	Construction	Lift Method	Depth Feet From Surface	Water Level Feet BLG*	Aquifer
J. Jacob 1 (1)	D	PVC	s	80	53.87***	Goliad
J. Jacob 2 (2)	A	PAC	S	Printing.	Partners.	Goliad
M. Rutherford 1(3)	D	PVC	\$	100	-	Goliad
M. Rutherford 2 (4)	D	.PVC	S	120		Goliad
J. Bluntzer 1(5)	D	PVC	S S S S S			Goliad
M. Wesselman 1(6)	D	PVC	Ş	-	despess on ,	Goliad
M. Walker 1 (8)	D	gragatists.	S .	-		Goliad
C. Duderstaedt 1 (9)		PVC			49.93***	Goliad
C. Duderstaedt 2 (10)			S		distriction.	Goliad
E. Hausman 1 (11)	D	PVC	Ş	225	,	Goliad
E. Hausman 2 (12)	D		S	***************************************		Goliad
D. Cheek 1 (13)	D/A	and beat-area	\$ S		£	Goliad
D. Cheek 2 ((14)	D/A	~~~	S			Goliad
O. Bluntzer 1 (15)	D		S	128	80***	Goliad
G. Halepeska 1 (18)	D/A		S	-	-	Goliad
G. Halepeska 2 (19)	Α	PVC	S			Goliad
T. Anklam 1 (20)	D/A	*****	S	300	86.6**	Goliad
T. Long 1 (21)	D		S	80		Goliad
A. Bade 1 (22)	D	Steel	S	86	31**	Goliad
A. Bade 2 (23)	D		S	Apple from	49.05	Goliad
M. Braquet 1 (24)	D	PVC	S		67.74**	Goliad
M. Braquet 2 (25)	D	PVC	S		####***	Goliad
Church 1 (26)	D	PVC	S		weightedant	Goliad
Church 2 (27)	D	PVC	S S	bicon Mipiy	58.31**	Goliad
C. Tolbert 1 (28) R.Tolbert 2 (29)	Ď D	PVC	\$ \$			Goliad
		Steel PVC	S		deno delli	Goliad
H. Martin (30)	A		S		aleren skede	Goliad Goliad
O. Bluntzer 2 (16)	A		S			Goliad
R. Stanford 1 (31)	D	4.11.2		160		Goliad
A. Jolly1 (32)	D D	PVC	<u></u> S	100		Goliad
<u>C.</u> Edwards 1 (33) S. Schrade 1 (35)		Steel	· · · · · · · · · · · · · · · · · · ·			Goliad
	A	PVC	6			Goliad
P. Breeden 1 (36)	D ^		S	and the same of th		Goliad
P. Breeden 2 (37)	A	Steel PVC	S S S	460	43.32**	
P. Breeden 3 (38) B. Schley 1 (39)	A D	FVC	S	400	43.32	Goliad
L. Schrade 1 (40)	D/A?		S		68.57**	Goliad

4-3

Revised: 1-21-08

Table 4.1 Water Well Inventory (Continued)

Well Name	Use	Construction	Lift Method	Depth Feet From Surface	Water Level Feet BGL*	Aquifer
R. Tolbert 3 (34)	Α	PVC.	S	eri eğ işi m		Goliad
-E. Abrameit 1_(4	3) A	PVC	S	, <u>amer</u>	7847	_Goliad
Abrameit Windn	nill (44)	PV C	Т	342		Goliad
K. Liesman 1 (4	5) A	bell last fan pop	S	4872		Goliad
R. Brown 1 (46)	D	PVC	S	***		Goliad
H. Becker 1 (47)	D/A	PVC	S		21.18**	Goliad
W. Wimberly 1(4	18) D/A		S	age and page and		Goliad
L. Bitterly 1 (41)	D/A					Goliad
D. Wacker 1 (42	D/A			yan yandan ga		Goliad
Dornberg 1(49)	D	=m-r-4	S			Goliad
K. Gray 1 (17)			No Pump)	36.04**	Goliad
J. Jacob(7) Old Rig Well	Α/I	PVÇ	s	*****	220	Goliad
J. Jacob(****) (New Rig Well)	1	PVC	S	440	PP 355 CALLS CO.	Goliad

Notes: *BGL = Below ground level.

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See Figure 4.1 for well locations. The second number following each name gives the location of the well on Figure 4.1, except for the J. Jacob New Rig Well. It is labeled on the map.

Goliad: Although the depth of many of the wells listed could not be verified by the owner or through TDWR well records, the wells are assumed to be completed in the Goliad Aquifer.

^{**}Water level measured from below the top of casing (BTOC).

^{***}Water level estimated by owner.

^{****} See label on map.

A = Agricultural use. D = Domestic use. I = Industrial Use. S = Submersible Pump.

T= Turbine.

Figure 4.1 Water Well Inventory (See Map Appendix)

It should be noted that a few wells whose locations have been recorded were not sampled. This is not an unusual occurrence when conducting water well inventories covering an extensive area. The three most common reasons why a well would not be sampled are: 1) the well is no longer functional; 2) permission cannot be obtained from the owner; and 3) the owner cannot be contacted. Fortunately, nearly all of the wells that were identified during the survey were sampled. The water quality evaluation, which is the subject of Section 5.0, is comprehensive in that it includes analyses of 28 constituents.

5.0 Water Use and Water Quality

5.1 Water Use

Local water use is very much what would be expected in a rural setting; namely, livestock and crop watering. However, other important and beneficial uses include energy development (oil, gas and uranium). Because this part of Goliad County does not have a diversified industrial presence or a built-up area (urban environment), water uses associated with these activities are absent. Other water uses within a 5 mile radius such as major municipal supply wells, schools, medical facilities, etc. also are absent. The nearest major public water uses are located in Cuero (approximately 18 miles north of the project area), Goliad (13 miles south of UEC's site) and Victoria (approximately 22 miles east of the site).

5.2 Local Water Quality

Water quality was established by sampling a large number of water wells. Sampling was conducted for all of the wells within the proposed permit area boundary and nearly all of the known wells within 1 km of the permit boundary. In addition, UEC completed 20 baseline wells within the permit boundary (see Figure 5.1 Baseline Wells in the Map Appendix). Not including the 20 baseline wells completed by UEC, a total of 47 wells were sampled for 28 water quality constituents. As a result of this sampling effort, local water quality is now firmly established. Table 5.1 provides the analytical results for each individual well and Table 5.2 gives a statistical summary of each water quality constituent. Table 5.2 also compares minimum, maximum and average values to U.S. EPA Drinking Water Standards.

A review of Table 5.1 shows that the area generally has good water quality. However, some constituents in several wells are elevated above the average for all the wells, and in some instances certain constituents are in excess of EPA Drinking Water Standards. It should be noted that because groundwater quality varies according to natural mineral content, there is nothing unusual about the elevated parameters in a few wells.

Table 5.1 Water Quality in Area Wells

	Jacob 1	Jacob 2	J. Bluntzer 1	Rutherford 1	Rutherford 2	Wesselman 1	Cheek 1	Cheek 2
Ca	145	125	80	123	103	100	108	108
Mg	16.0	13.0	17.0	13.0	15.0	9.3	18.0	18.0
Na	195	183	79	83	69	38	96	95
K	3.2	2.7	3.1	1.8	2.2	2.2	3.1	3.0
CO3	0	0	0	0	0	0	0	0
HCO3	411	447	334	458	388	331	305	306
SO4	118	78	21	26	8	18	41	43
CI	258	193	99	101	106	59	183	179
NO3-N	7.40	11.00	0.54	0.39	0.06	0.70	1.70	1.60
F	0.62	0.97	0.62	0.43	0.42	0.23	0.65	0.65
SIO2	58	72	28	58	45	39	42	41
TDS	1020	910	485	620	538	397	648	653
EC µmhos	1680	1420	855	1020	910	711	1130	1120
ALK	337	366	274	375	318	271	250	251
pН	7.19	7.52	7.35	7.03	7.23	7.20	7.15	7.18
As	0.016	0.016	0.001	0.005	0.003	0.001	0.002	0.003
Cd	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0002	0.0001
Fe	0.01	0.02	<0.01	0.01	<0.01	0.02	<0.01	<0.01
Pb	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Mn	<0.01	0.01	<0.01	<0.01	0.24	0.01	<0.01	<0.01
Hg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	< 0.0002
Мо	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Se	0.004	0.003	0.001	<0.001	<0.002	<0.001	0.002	0.002
U	0.002	0.002	0.009	<0.001	<0.001	<0.001	0.001	0.001
Ammonia	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ra-226 pCi/l	0.6+/-0.1	0.2+/-0.1	0.6+/-0.1	0.2+/-0.1	0.3+/-0.1	0.3+/-0.1	0.4+/-0.1	2.0+/-0.1
Alpha pCi/l	15.0+/-6.0	27.0+/-7.0	15.0+/-4.0	11.0+/-4.0	11.0+/-4.0	6.8+/-2.7	14.0+/-5.0	8.8+/-4.1
Beta pCi/l	15.0+/-3.0	8.7+/-2.7	12.0+/-2.0	9.0+/-2.2	9.4+/-2.2	7.1+/-1.6	12.0+/-3.0	7.3+/-2.7

Table 5.1 Water Quality in Area Wells (Continued)

	Duderstaedt 1	Duderstaedt 2	! Hausman 1	Hausman 2	Walker 1	Anklam 1	O.Bluntzer 1	Halepeska 1
Ca	195	135	100	125	250	88	103	125
Mg	12.0	8.3	15.0	5.9	35.0	16.0	11.0	14.0
Na	104	68	95	21	130	99	48	219
K	3.9	2.1	3.9	1.9	35.0	3.5	2.1	2.5
CO3	0	0	0	0	0	0	0	0
HCO3	433	429	316	340	271	328	389	432
SO4	72	27	35	14	535	38	19	99
CI	206	95	146	44	226	131	40	254
NO3-N	21.00	11.00	2.10	5.40	<0.01	2.00	2.70	10.00
F	0.27	0.26	0.47	0.18	0.49	0.51	0.38	0.60
SIO2	37	37	36	31	40	31	64	57
TDS	857	630	600	440	1420	600	45 5	1030
EC µmhos	1560	1040	1030	647	1980	995	647	1680
ALK	355	352	259	279	222	269	319	354
pН	6.99	7.02	7.27	7.18	7.13	7.23	7.29	7.14
As	0.002	0.003	<0.001	0.003	0.001	0.001	0.007	0.035
Cd	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Fe	<0.01	<0.01	<0.01	0.01	0.02	<0.01	0.01	<0.01
Pb	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Mn	<0.01	<0.01	<0.01	<0.01	0.10	<0.01	<0.01	<0.01
Hg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Мо	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Se	0.004	0.002	0.002	0.002	<0.001	0.002	0.001	<0.001
U	0.002	0.005	0.002	0.001	0.003	0.003	0.002	0.004
Ammonia	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ra-226 pCi/l	0.3+/-0.1	0.3+/-0.1	0.3+/-0.1	1.1+/-0.1	1.1+/-0.1	0.7+/-0.1	0.3+/-0.1	0.3+/-0.1
Alpha pCi/l	3.3+/-4.1	6.3+/-3.3	5.4+/-3.3	2.1+/-2.1	10.0+/-6	13.0+/-4.0	4.9+/-2.4	11.0+/-6
Beta pCi/l	6.7+/-2.4	7.3+/-1.8	7.5+/-1.9	5.2+/-1.4	21.0+/-5.0	9.6+/-2.0	4.6+/-1.3	6.1+/-3.4

Table 5.1 Water Quality in Area Wells (Continued)

	Abrameit 1	Bitterly 1	Liesman 1	Shrade 1	Wacker 1	Stanford 1	Long 1	Edwards 1
Ca	113	127	140	78	115	100	105	100
Mg	20.0	20.0	11.0	17.0	21.0	18.0	19.0	20.0
Na	95	87	72	135	86	87	96	92
ĸ	3.7	2.4	2.3	3.7	4.2	3.0	3.0	3.6
CO3	0	0	0	0	0	0	0	0
HCO3	314	326	443	333	320	309	318	322
SO4	45	42	38	40	37	43	55	43
CI	178	182	84	162	175	162	173	166
NO3-N	1.40	2.10	5.40	1.40	3.10	2.70	0.60	1.50
F	0.65	0.62	0.30	0.65	0.70	0.60	0.62	0.65
SIO2	33	29	36	31	31	37	42	35
TDS	668	665	621	618	645	670	646	675
EC µmhos	1120	1150	1020	1100	1100	1020	1140	1050
ALK	257	267	363	273	262	253	261	264
pН	7.37	7.26	7.18	7.53	7.38	7.64	7.28	7.48
As	0.005	0.002	0.004	<0.001	0.001	0.003	0.002	0.003
Cd	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Fe	0.01	0.02	0.01	0.02	0.01	0.02	<0.01	0.01
Pb	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Mn	0.03	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01
Hg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Mo	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Se	0.003	0.006	0.003	0.002	0.004	0.002	0.001	0.002
U	0.003	0.002	0.004	0.004	0.002	0.002	0.003	0.003
Ammonia	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ra-226 pCi/l	1.0+/-0.1	0.5 +/-0.1	0.6 +/- 0.1	0.4 +/- 0.1	0.4 +/- 0.1	0.2+/-0.1	1.1+/-0.1	0.3+/-0.1
Alpha pCi/l	8.7+/-3.6	9.7+/-3.7	4.9+/-3.2	5.5+/-3.5	6.4+/-3.4	8.1+/-3.6	8.5+/-3.7	6.7+/-3.5
Beta pCi/l	5.8+/-2.5	4.8+/-2.1	5.2+/-2.1	6.6+/-1.9	6.6+/-1.9	7.4+/-2.0	29.0+/-3	5.4+/-2.1

Table 5.1 Water Quality in Area Wells (Continued)

	Braquet 1	Braquet 2	Joily 1	Martin 1	Bluntzer 2	Church 1	Church 2	Becker 1
Ca	290	102	105	95	113	125	340	81
Mg	36.0	21.0	20.0	7.6	12.0	16	27	19
Na	133	115	96	20	44	124	120	120
K	2.4	3.1	4.3	1.6	2.6	1.6	3.6	2.5
CO3	0	0	0	0	0	0	0	0
HCO3	336	337	328	344	375	504	359	362
SO4	21	58	43	8	15	27	184	46
CI	583	164	160	19	56	124	474	126
NO3-N	14.0	<0.01	1.80	2.90	4.90	3.00	10.00	0.13
F	0.34	0.60	0.62	0.40	0.65	0.55	0.21	0.79
SIO2	54	40	35	36	59	63	37	39
TDS	1370	685	663	390	520	751	1510	638
EC µmhos	2460	1140	1090	532	778	1170	2360	1020
ALK	275	276	269	282	307	413	294	297
pΗ	7.27	7.38	7.42	7.44	7.37	7.27	7.12	7.43
As	0.007	<0.001	0.004	0.005	0.008	0.008	0.002	<0.001
Cd	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Fe	0.01	0.04	0.03	0.01	0.06	0.03	<0.01	0.03
Pb	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Mn	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Hg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Мо	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Se	0.003	<0.001	0.001	0.001	0.002	0.004	0.005	0.001
υ	0.003	0.002	0.003	0.003	0.001	0.003	0.003	0.004
Ammonia	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ra-226 pCi/l	0.6+/-0.1	29.0+/-1.0	0.8+/-0.1	0.8+/-0.1	0.7+/-0.1	0.2+/-0.1	0.2+/-0.1	0.2+/-0.1
Alpha pCi/l	4.9+/-6.3	35.0+/-7	4.4+/-2.8	3.5+/-2.0	2.5+/-2.2	7.3+/-4.0	8.9+/-6.7	7.5+/-3.6
Beta pCi/l	7.9+/-3.7	9.3+/-2.5	8.4+/-2.4	5.7+/-1.3	5.8+/-1.6	4.5+/-2.4	6.7+/-3.5	5.6+/-1.8

Table 5.1 Water Quality in Area Wells (Continued)

	Wimberly 1	Bade 1	Bade 2	Breeden 1	Breeden 2	Breeden 3	Schley 1	Tolbert 3
Ca	83	110	110	123	195	33	115	215
Mg	16	19	18	12	31	14	20	37
Na	113	105	110	49	198	185	101	210
K	3.7	3.6	3.6	2.0	4.4	4.2	3.9	4.9
CO3	0	0	0	0	0	0	0	0
HCO3	325	312	310	293	320	361	310	317
SO4	2	60	60	35	84	26	82	119
CI	165	178	178	124	468	176	166	533
NO3-N	<0.01	1.30	1.50	1.20	<0.01	<0.01	1.40	<0.01
F	0.43	0.51	0.57	0.43	0.47	0.60	0.62	0.45
SIO2	32	40	42	42	38	26	41	37
TDS	600	685	665	543	1280	643	693	1440
EC µmhos	1010	1160	1150	892	2100	1140	1140	2310
ALK	266	256	254	240	262	296	254	260
pН	7.50	7.39	7.33	7.38	7.26	7.57	7.42	7.22
As	0.001	0.002	0.003	0.009	<0.001	<0.001	0.002	<0.001
Cd	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	< 0.0001	<0.0001
Fe	0.05	<0.01	<0.01	0.02	1.1	0.08	0.04	0.06
₽b	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Mn	0.03	<0.01	<0.01	0.01	0.03	<0.01	<0.01	0.03
Hg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Mo	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Se	<0.001	0.001	0.002	0.012	<0.001	<0.001	0.002	<0.001
U	<0.001	0.002	0.002	0.004	<0.001	<0.001	0.003	<0.001
Ammonia	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Ra-226 pCi/l	0.5+/-0.1	0.6+/-0.1	1.0+/-0.1	12.0+/-1.0	15.0+/-1.0	1.1+/-0.1	1.1+/-0.1	16.0+/-1.0
Alpha pCi/l	1.7+/-2.3	6.6+/-3.7	11.0+/-4.0	15.0+/-4.0	18.0+/-7.0	2.8+/-3.2	4.4+/-3.6	30+/-9
Beta pCi/l	5.2+/-2.2	6.3+/-2.0	7.2+/-2.0	6.6+/-1.6	6.7+/-2.1	6.7+/-2.1	5.3+/-2.3	8.8+/-4.6

Table 5.1 Water Quality in Area Wells (Continued)

	Brown 1	Halepeska 2	C.Tolbert 1	Jacob's Well		Domberg 1	Jacob Rig Supply
Ca	105	75	96	81	88	108	51
Mg	19	16.0	11	17	16	18	13
Na	103	128	80	120	97	100.8	136
κ	3.6	3.7	2.2	3.7	2.5	3.9	4.6
CO3	0	0	0	0	0	0	0
HCO3	303	331	399	326	340	299	361
SO4	37	38	30	11	20	35	19
CI	180	146	64	165	148	201	146
NO3-N	1.60	1.40	1.3	<0.01	<0.01	1.3	0
F	0.57	0.62	0.97	0.44	0.57	0.49	0.50
SIO2	38	32	61	28	28	34	2 2
TDS	693	608	550	573	546	613	504
EC µmhos	1110	1050	852	972	922	1160	997
ALK	248	271	327	267	279	245	296
рН	7.35	7.40	7.44	7.52	7.56	7.56	7.48
As	0.002	0.001	0.011	<0.001	0.028	0.005	0
Cd	<0.0001	<0.0001	<0.0001	0.0001	<0.0001	<0.0001	<0.001
Fe	0.03	<0.01	<0.01	<0.01	0.05	<0.01	0
Pb	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	0
Mn	<0.01	<0.01	<0.01	0.01	0.24	<0.01	0.02
Hg	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	0
Мо	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0
Se	0.002	0.003	0.002	<0.001	<0.001	<0.001	0
U	0.002	0.004	0.001	<0.001	0.004	0.003	0.005
Ammonia	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0
Ra-226 pCi/l	0.4+/-0.1	1.0 +/- 0.1	0.1+/-0.1	10.0+/-1.0	1.9+/-0.1	0.5+/-0.1	2.4
Alpha pCi/l	5.1+/-3.5	10.0+/-4	2.8+/-2.5	11+/-4	31+/-6		
Beta pCi/l	5.4+/-2.2	6.8+/-2.3	2.8+/-1.5	7.8+/-1.8	18+/-3		

Table 5.2 Statistical Summary of Water Quality in Area Wells

	Average Value	Minimum Value	Maximum Value	Standard Deviation	EPA Standard*
Ca	122	33	340	56	NS
Mg	17	5.9	37.0	6.7	NS
Na	106	20	219	45	NS
K	3.8	1.6	35	4.7	NS
CO ₃	0	0	0	0	NS
HCO ₃	350	271	504	51	NS
SO ₄	55	2	535	79	250
CI	178	19	583	117	250
NO3-N	3.12	<0.01	21	4.4	10
F	0.53	0.18	0.97	0.17	4.0
SIO ₂	40	22	72	11	NS
TDS	716	390	1510	273	500
EC (µmhos)	1184	532	2460	434	NS
ALK	287	222	413	42	NS
ρН	7.33	6.99	7.64	0.16	6.5 to 8.5
As	0.005	<0.001	0.035	0.007	0.01
Cd	<0.0001	<0.0001	0.0002	0.0001	0.005
Fe	0.04	<0.01	1.1	0.16	0.3
Pb	<0.001	<0.001	0.001	0.001	0.015
Mn	0.02	<0.01	0.24	0.05	0.05
Hg	<0.0002	<0.0002	<0.0002	0.0000	0.002
MO	<0.1	<0.1	<0.1	0.0	NS
Se	0.002	<0.001	0.012	0.002	0.05
U	0.003	<0.001	0.009	0.002	0.03
Ammonia	<0.1	<0.1	<0.1	0.0	NS
Ra-226 (pCi/l)	2.3	0.1	29.0	5.4	5.0
Gross Alpha (pCi/l)	9.9	1.7	35.0	7.7	15
Gross Beta (pCi/l)	8.2	2.8	29.0	4.6	15

Notes: Units are in milligrams per liter (mg/l) unless otherwise noted.

Maximum Contaminant Levels (MCL) for drinking water.

NS: No standard.

Apart from groundwater quality varying in relation to the degree of mineralization, quality can be affected by human activities. Elevated nitrate levels, for example, are commonly found in rural areas where ranching and farming occur. Although animal waste products and fertilizers are often the source of the elevated contaminant, septic tanks are also a source. Of the 47 wells listed in Table 5.1, six have elevated nitrate levels. The highest concentration (21 mg/l) was found in the Duderstaedt number 1 well. The nitrate level is more than twice EPA's Maximum Contaminant Level (MCL) of 10 mg/l. The Duderstaedt number 2 well (11 mg/l) is also in excess of the standard. Other wells with nitrate concentrations at or in excess of the EPA standard are: Jacob 1 (11 mg/l); Halepeska 1 (10 mg/l); Braquet 1 (14 mg/l); and St. Peter's Church 2 (10 mg/l).

With respect to elevated constituents related to natural mineralization, the following wells were noted.

	Arsenic (mg/l)	lron (mg/l)	Manganese (mg/l)	Ra-226 (pCi/l)
Jacob 1	0.016			
Jacob 2	0.016			
Jacob Old Rig Well				10.0+/-1.0
Rutherford 2			0.24	
Abrameit Windmill	0.028		0.24	
Halepeska 1	0.035			
Braquet 2				29.0 +/-1.0
Breeden 1				12.0 +/-1.0
Breeden 2		1.1		15.0+/-1.0
Tolbert 3				16.0+/-1.0
C. Tolbert 1	0.011			

As previously noted, it is common to find elevated metals and other constituents in areas that have strong mineralization. Obviously, UEC's proposed permit area has commercial grade uranium deposits, and therefore areas proximate to these ore zones too will show mineralization. A good example of this is the Braquet number 2 well. As the table above shows, Ra-226, a decay product of natural uranium, is somewhat elevated. After receiving the laboratory report, UEC ran a gamma log on the Braquet number 2 well. As expected, the well is in a uranium ore zone. The other wells in the table that have elevated Ra-226 values are no doubt in a uranium ore zone. All of the values exceed the EPA Drinking Water Standard of 5 pCi/l.

The arsenic values in the above table are above the EPA Drinking Water Standard of 0.01 mg/l. Two wells exceed EPA's Secondary Standard for manganese (0.05 mg/l) by quite a margin. The Rutherford number 2 well, for example, is nearly 5 times higher than the standard, and the same can be said for the Abrameit Windmill. Finally, the 1.1 mg/l iron concentration in the Breeden number 2 well is more than 3.5 times above EPA's Secondary Standard of 0.3 mg/l. Again, it is not uncommon to find this level of variation in groundwater near mineralized zones.

Up to this point, the water quality discussion had been mainly focused on individual wells. Table 5.2 allows a comparison to be made between EPA Drinking Water Standards and the average water quality found in the study area as a whole. A summary of where local water quality stands with respect to EPA standards follows.

With respect to chloride and sulfate, the average values in the study area are well below the Maximum Concentration Limits (MCL) of 250 mg/l. Nitrate levels are somewhat elevated at 3.12 mg/l but this value is well below the MCL of 10 mg/l. As noted earlier, rural land uses such as farming and ranching contribute to higher than normal nitrate levels. The average for total dissolved solids (TDS) is 716 mg/l, and this exceeds the 500 mg/l MCL. Since most native groundwater in South Texas exceeds the 500 mg/l MCL, the local water quality for this parameter is not unusual. Figure 5.2 TDS Contour Map (see Map Appendix) shows TDS concentrations across the site and within the AOR, and Figures 5.3 through 5.6 (Map Appendix) show TDS values for UEC's baseline wells.

Average concentrations for metals (As, Cd, Fe, Pb, Mn, Hg, MO, Se and U) are all less than their respective MCL. Although it is under the 5 pCi/l MCL, Ra-226 is slightly elevated. Generally, Ra-226 in groundwater is 1 pCi/l or less. Referring back to Table 5.1 for example, it can be seen that 30 of the 47 wells have less than 1 pCi/l Ra-226. However, 16 or 34 percent of the wells have Ra-226 values at or in excess of 1 pCi/l, and this, along with several wells with values in excess of 10 pCi/l, has raised the overall average value. Again, because the study area is in a known uranium ore trend, a higher than normal frequency of elevated Ra-226 values is to be expected.

The presence of a mineralized zone was mentioned several times in the discussion above. It was also noted that groundwater quality can vary significantly, depending on the degree of mineralization. The subsequent section, 5.3 Mine Area Baseline Water Quality, will clearly illustrate the dramatic difference between groundwater quality in a mineralized zone and a non-mineralized or slightly mineralized zone.

5.3 Permit Area Baseline Water Quality

UEC completed 20 baseline wells within the proposed permit area, and the results are listed in Table 5.3. A review of Table 5.3 shows that a number of water quality parameters compare favorably with those from water wells within the 1 km AOR. That is to say, the concentrations of certain water quality constituents found in the permit area are similar to those reported for the wells in the 1 km AOR. To illustrate, levels of Ca, Mg, Na, Cl, F, AlK, pH, Fe and Mn, are very much the same in both areas. Also, the concentrations of Cd, Pb and Hg in the permit area baseline wells are very low and nearly identical with those in the AOR. Since there are no significant deposits of these metals in this part of Texas, only trace amounts would be detected. If significant levels were found, it would be the result of contamination.

Table 5.3 Baseline Wells within the Permit Boundary

	RBLA-1	RBLA-2	RBLA-3	RBLA-4	RBLA-5	EPA
	1 (DLA-1	NDD4-2	ייטטעיי	1/DL/~+	KBCA-5	Standards
						Stanuarus
Са	97	91	110	140	83	NS
Mg	10.0	6.0	9.3	10.0	4.8	NS
Na	36	69	50	115	44	NS
K	3.3	11.0	3.7	5.1	10.5	NS
CQ3	<1	0	0	<1	0	NS
HCO3	328	288	249	393	281	NS
SO4	43	38	16	56	29	250
CI	44	116	139	218	62	250
NO3-N	< 0.05	0	<0.01	0.08	0	10
F	0.5	0.70	0.53	8.0	0.50	4.0
SIO2	34.9	54.1	46.0	41.2	36.3	NS
TDS	400	550	540	782	422	500
EC µmhos	686	886	851	1350	697	NS
ALK	269	236	204	323	230	NS
pH s.u.	7.39	7.43	7.42	7.11	7.48	6.5 to 8.5
As	0.003	0.034	0.031	0.045	0.015	0.01
Cd	ND	0	0.0001	ND	0	0.005
Fe	ND	0	0.01	ND	0	0.3
Pb	ND	0	0,001	ND	0	0.15
Mn	ND	0.01	0.01	0.01	0	0.05
Hg	ND	0	<0.0002	ND	0	0.002
Мо	ND	0.4	0.3	0.4	0.2	NS
Se	ND	0.004	<0.001	0.002	0.002	0.05
U	0.018	0.286	0.127	0.147	0.266	0.03
Ammonia	<0.1	0.06	<0.1	<0.1	0	NS
Ra-226 pCi/l	735+/-8.5	989+/-10.3	3160+/-10	904+/-9.3	937+/-10.0	5pCi/l

Table 5.3 Baseline Wells within the Permit Boundary (Continued)

	RBLB-1	RBLB-2	RBLB-3	RBLB-4	RBLB-5	EPA Standards
Ca	100	78	91	101	88	NS
Mg	19.0	10.0	15.8	20.2	16.5	NS
Na	98	94	95	100	94	NS
K	6.6	18.0	8.9	7.1	4.4	NS
CO3	0	0	0	0	0	NS
HCO3	332	255	302	325	340	NS
SO4	32	29	41	69	9	250
Cl	161	151	163	150	163	250
NO3-N	0	<0.01	0	0	0	10
F	0.70	0.55	0.70	0.70	0.80	4.0
SIO2	32.2	32.0	31.6	32.0	31.6	NS
TDS	644	560	614	666	584	500
EC µmhos	1160	939	1070	1140	1050	NS
ALK	272	209	253	266	279	NS
pH s.u.	7.43	7.60	7.79	7.54	7.63	6.5 to 8.5
As	0.006	0.007	0.030	0.004	0.009	0.01
Cd	0	0.0003	0	0	O	0.005
Fe	0	0.02	0	0	0	0.3
Pb	0	0.001	0	0	0	0.15
Mn	0.02	0.01	0.02	0	0.02	0.05
Hg	0	<0.0002	0	0	0	0.002
Мо	0	<0.1	0	0	0	NS
Se	0.001	<0.001	0.002	0.001	0.001	0.05
U	0.062	0.059	0.080	0.006	0.060	0.03
Ammonia	0	<0.1	0.05	0.08	0.06	NS
Ra-226 pCi/l	393+/-5.7	12+/-1	111+/-3.9	37+/-2.1	1090+/-9.6	5pCi/l

Table 5.3 Baseline Wells within the Permit Boundary (Continued)

	RBLC-1	RBLC-2	RBLC-3	RBLC-4	RBLC-7	EPA Standards
Ca	75	71	79.8	81	95	NS
Mg	14.6	9.8	17.1	17	17.0	NS
Na	92	97	97.1	100	96	NS
K	14.6	11.9	4.2	7.1	4.8	NS
CO3	0	0	ND	0	0	NS
HCO3	295	249	340	344	328	NS
SO4	57	32	11	11	38	250
CI	130	125	150	130	146	250
NO3-N	0	0	ND	0	<0.01	10
F	0.60	0.60	0.5	0.50	0.55	4.0
SIO2	23.8	21.5	25.6	24.8	30.0	NS
TDS	558	534	510	566	540	500
EC µmhos	986	890	982	1010	1010	NS
ALK	242	204	278	282	269	NS
pH s.u.	7.59	7.94	7.45	7.71	7.48	6.5 to 8.5
As	0.009	0.024	0.006	0.004	0.001	0.01
Cd	0	0	ND	0	0.0001	0.005
Fe	0	0.03	ND	0.05	0.01	0.3
Pb	0	0	ND	0	0.001	0.15
Mn	0	0	ND	0	0.02	0.05
Hg	0	0	ND	0	<0.0002	0.002
Мо	0	1.9	ND	0	<0.1	NS
Se	0.005	0.024	0.001	0.001	0.006	0.05
U	800.0	6.680	0.031	0.055	0.020	0.03
Ammonia	0.11	0.09	ND	0.09	<0.1	NS
Ra-226 pCi/l	10.0+/-1.1	692+/-9.0	71.2+/-2.6	136+/-3.9	18+/-1	5pCi/l

Table 5.3 Baseline Wells within the Permit Boundary (Continued)

	RBLD-1	RBLD-2	RBLD-3A	RBLD-5	RBLD-6	EPA Standards
Ca	88	74	68	73	90	NS
Mg	19.0	16.9	14.3	18.0	17.0	NS
Na	106	110	105	114	106	NS
K	4.5	4.1	6.0	7.1	4.7	NS
CO3	0	ND	ND	0	0	NS
HCO3	334	341	330	295	318	NS
SO4	10	12	6	19	13	250
CI	164	164	158	164	168	250
NO3-N	<0.01	ND	ND	<0.01	<0.01	10
F	0.49	0.5	0.5	0.39	0.51	4.0
SIO2	29.0	27.9	29.1	30.0	34.0	NS
TDS	598	534	568	575	623	500
EC (µmhos)	996	1020	1040	998	978	NS
ALK	274	279	271	242	261	NS
pH (S.U.)	7.48	7.59	7.54	7.49	7.57	6.5 to 8.5
As	0.003	0.001	ND	0.010	0.002	0.01
Cd	0.0001	ND	ND	0.0001	0.0001	0.005
Fe	0.02	ND	0.11	0.01	0.01	0.3
Pb	<0.001	ND	ND	0.001	0.001	0.15
Mn	0.01	ND	ND	0.01	0.01	0.05
Hg	<0.0002	ND	ND	<0.0002	<0.0002	0.002
Mo	<0.1	ND	ND	<0.1	<0.1	NS
Se	<0.001	0.003	0.001	<0.001	<0.001	0.05
U	0.037	0.017	0.006	0.035	0.019	0.03
Ammonia	<0.1	<0.1	ND	<0.1	<0.1	NS
Ra-226	50+/-1	207+/-4.4	539+/-19.3	442+/-2.0	1040+/-10	5pCi/l

Although water quality is similar for a number of constituents, there is a vast difference in the levels of uranium and Ra-226. To underscore this difference, Radium-226 and uranium values were taken from Table 5.2 Statistical Summary of Water Quality in Area Wells and Table 5.4 Statistical Summary of Baseline Wells and placed in the table below.

	Ra-226 (pCi/l)	Uranium (mg/l)	EPA Drinking Water Standard*
Permit Area Average	579	0.401	5 pCi/l (Ra-226)
Permit Area High	3,160	6.68	0.03 mg/l (Uranium)
AOR Area High	29	0.009	
AOR Average	2.31	0.003	

^{*}Maximum Contaminant Level (MCL).

The average Ra-226 concentration in the permit area is approximately116 times higher than the drinking water standard, and the average uranium level is 13.4 times higher than the standard. The highest Ra-226 level of 3,160 pCi/l is 632 times higher than the 5 pCi/l standard, and the highest uranium value is 223 times over the standard. Clearly, compared to background levels recorded in the AOR, permit area baseline wells have very poor water quality with respect to uranium and Ra-226.

In stark contrast, the average uranium and Ra-226 levels in the AOR meet EPA Drinking Water Standards. For example, the average uranium level of 0.003 mg/l is 10 times lower than the standard. Although slightly elevated, Ra-226 (2.3 pCi/l) is only 46% of the 5pCi/l MCL.

The comparisons above demonstrate that although water quality in a uranium ore trend may be similar in some respects to water quality in non-mineralized areas, it differs significantly in terms of uranium and Ra-226 concentrations.

Table 5.4 Statistical Summary of Baseline Wells

	Average	High	Low	STDEV	EPA
Ca	89	140	68	16	NS
Mg	14.1	20.2	4.8	4.6	NS
Na	91	115	44	23	NS
K	7.4	18.0	3.7	4.0	NS
CO3	0	0	0	0.0	NS
HCO3	313	393	249	36	NS
SO4	29	69	6	18	250
CI	143	218	62	38	250
NO3-N	0.01	0.08	0.08	0	10
F	0.58	0.80	0.39	0.11	4.0
SIO2	32.4	54	22	7.6	NS
TDS	568	782	422	81	500
EC µmhos	987	1350	697	148	NS
ALK	257	323	204	30	NS
рН	7.53	7.94	7.11	0.17	6.5 to 8.5
As	0.013	0.045	0.001	0.013	0.01
Cd	0.0001	0.0003	0.0001	0	0.005
Fe	0.02	0.11	0.01	0.01	0.3
Pb	0.001	0.001	0.001	0	0.15
Mn ·	0.01	0.02	0.01	0.01	0.05
Hg	<0.0002	< 0.0002	<0.0002	0	0.002
Мо	0.2	1.9	<0.1	0.4	NS
Se	0.003	0.024	<0.001	0.005	0.05
U	0.401	6.680	0.006	1.480	0.03
Ammonia	0.04	0.11	0	0.03	NS
Ra-226 pCi/l	579	3160	10.0	725	5pCi/i

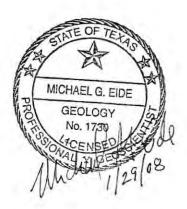
In the discussion on page 5-16 a comparison was made between average and high values found in the permit area and average and high values in the AOR. Table 5.5 has been prepared to further emphasize the fact that portions of aquifers containing natural deposits of uranium typically have elevated levels of radium-226 and uranium.

Table 5.5 Comparison of Production Sand Water Quality Average Values

	A-Sand Average	B-Sand Average	C-Sand Average	D-Sand Average
Са	104	92	80	79
Mg	8.0	16.3	15.1	17
Na	63	96	96	108
K	6.7	9.0	8.5	5.3
CO3	0	0	0	0
HCO3	308	311	311	324
SO4	36	36	30	12
CI	116	158	136	164
NO3-N	0.02	0	0	0
F	0.6	0.7	0.6	0.5
SIO2	42.5	31.9	25.1	30
TDS	539	614	542	580
EC µmhos	894	1072	976	1006
ALK	252	25 6	255	265
pH Std. Units	7.37	7.60	7.63	7.50
As	0.026	0.011	0.009	0.004
Cd	0	0.0001	0	0.0001
Fe	0	0	0.02	0.04
Pb	0	0	0	0
Mn	0.01	0.01	0.01	0.01
Hg	0	0	0	0
Мо	0.3	0	0.4	0
Se	0.003	0.001	0.01	0.002
U	0.169	0.053	1.360	0.023
Ammonia	0	0	0.1	0
Ra-226 pCi/l	1345	329	185	456

Note: Units are expressed in mg/l unless other wise noted.

Chapter 6.0 Hydrology



The affixed seal covers the entire contents of this chapter.

6.0 Hydrology

Section six of the Permit Application Technical Report describes the regional and permit area hydrology relevant to UEC's ISR project.

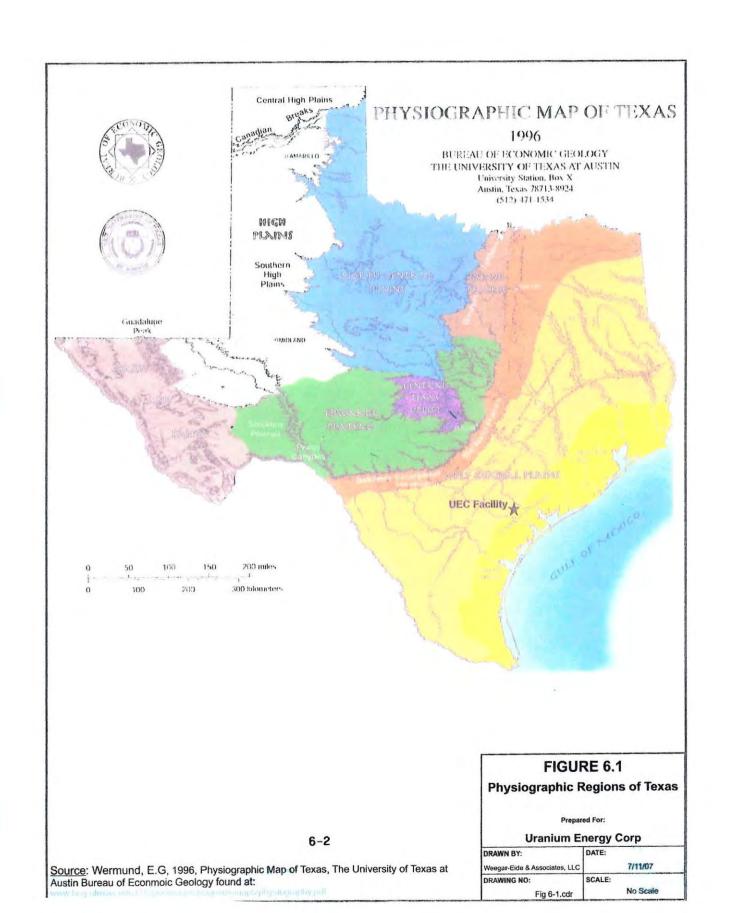
6.1. Regional Hydrology

As described in previous sections, the project is located in northern Goliad County (see Figures 1.1 and 1.2). The site lies within the Coastal Plain physiographic region of Texas (Figure 6.1). The Coastal Plain is a relatively flat to undulating low-lying area adjacent to the current Gulf of Mexico shoreline and extends to the north and west away from the coast. The elevation of the Coastal Plain gradually rises to the north and west from sea level to an elevation of as much as 900 feet in the Coastal Uplands. The Coastal Plain is underlain by a thick wedge of interbedded and intermixed Tertiary and Quaternary clastic sediments of fluvial, deltaic, and marine origin that generally slope toward the Gulf of Mexico and outcrop to the north and west. The surficial geology of the Coastal Plain is complex due to recent and active reworking of deposits by erosion and deposition of modern streams and rivers (Chowdhury and Turco, 2006).

The climate of the upper Texas Coastal Plain region is characterized as subtropical humid. This climate classification is most noted for warm summers. The average annual rainfall for the northern portion of Goliad County is approximately 34 inches and the average gross lake surface evaporation rate is 61 inches. The prevailing wind direction is from the southeast (Larkin and Bomar, 1983).

6.1.1 Regional Hydrostratigraphic Framework

The regional hydrostratigraphic framework for the Texas Coastal Plain is illustrated in Figures 6.2 and 6.3 (Baker, 1979). In general, the Coastal Plain hydrostratigraphic framework in the UEC regional study area corresponds to the model outlined by Baker (1979) with all underground sources of drinking water (USDWs) being associated with post-Miocene series strata collectively known as the Gulf Coast Aquifer.



Era	System	Series	Stratigraphic Units	Hydrogeologic Units	Selected Faunal Markers	Remarks
	Quater- nary	Holocene Pleistocene	Alluvium Beaumont Clay Hontgowery Formation Bentley Formation Will's Sand	Chicot aquifor		Quaternary System undiffer- ontiated on sections.
		Pliocene	Goliad Sand	Evangeline aquifer		Goliad Sand overlapped east o
		Fleming Formation	Burkeville confining system	Potamides matsoui Bigenerina nodosaria var. directa Bigenerina humblei		
	Nincene 7 Oligocene(?)		Oakville Sandstone		Amphistegius sp. Discorbis nomada Discorbis gravelli Heterostegius sp. Alatginulina idiomorpha Textudatia mississippiensis	Oskville Sandstone included i Fleming Formation east of Washington County.
CENOZOIC		Niocene	S Upper part of u Catahoula Tuff b or Sandstone u or Sandstone u Anahuac Formation f f f f c a f f c c "Frio" Formation	Jasper aquifer Cataboula confining system (restricted)		Catahoula Tuff designated as Catahoula Sandstone east of Lavaca County. Anahuac and "Frio" Formations may be Oligocene in age.
		Oligocene(7)	Surface Subsurface Frio Clay Vicksburg Group equivalent		Textularia warreni	Frio Clay overlapped or not recognized on surface east of Live Oak County.
		Eocene	Fashing Clay Member Calliam Sandstone Member or Tordilla Sandstone Member Whitsett Formation Formation Dewessyille Sandstone Member Conquista Clay Member Dilworth Sandstone Member Manning Clay Wellborn Sandstone Caddell Formation	Not discussed as hydrologic units in this report.	Marginulina cocoaensis Textularia hockleyensis Massilina pratti Textularia dibollensis	Indicated members of Whitsett Formation apply to south- central Texas. Whitsett Formation east of Karnes County may be, in part or in whole, Oligocene in age.
		Yegua Formation Cook Mountain Formation Sparta Band Weches Formation Queen City Sand Reklaw Formation Carrizo Sand		Nonionella cockfieldensis Discorbis yeguaensis Eponides yeguaensis Ceratobulimina eximia		
		Paleocene	Wilcox Group Midway Group			

FIGURE 6.2

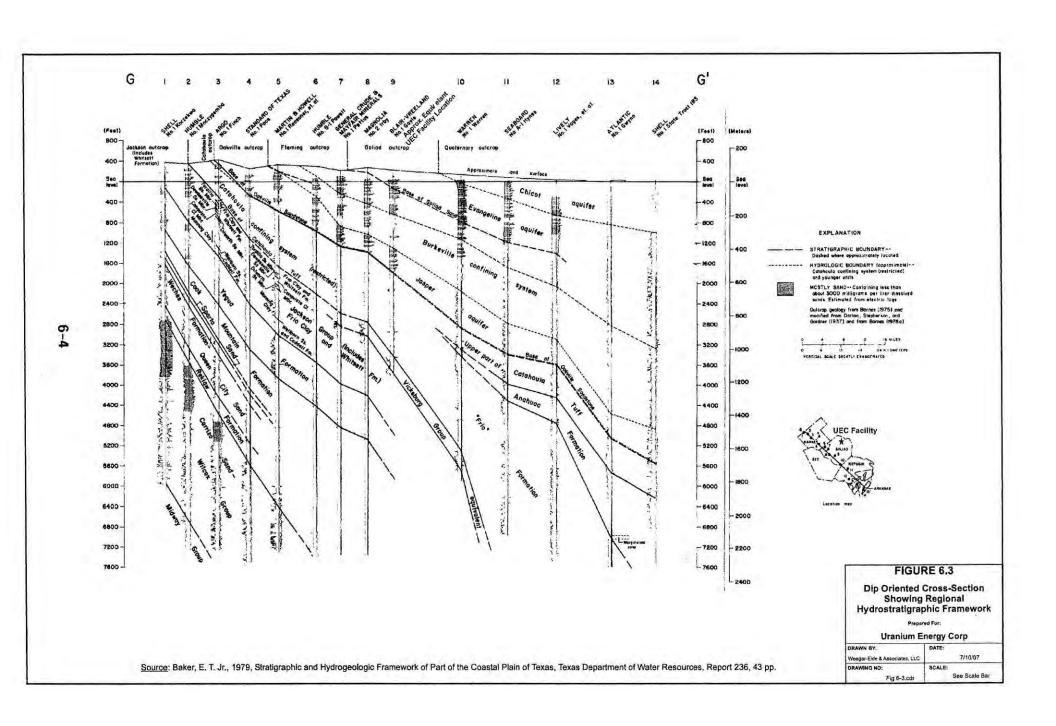
Regional Hydrostratigraphic Framework for Texas Coastal Plain

Prepared For:

Uranium Ene		Energy	Corp
AIAINI DV.		DATE	

DRAWN BY:	DATE:
Weegar-Eide & Associates, LLC	7/10/07
DRAWING NO:	SCALE:
Fig 6-2.cdr	No Scale

Source: Baker, E. T. Jr., 1979, Stratigraphic and Hydrogeologic Framework of Part of the Coastal Plain of Texas, Texas Department of Water Resources, Report 236, 43 pp.



In general groundwater quality in the Gulf Coast Aquifer is good northeast of the San Antonio River but declines to the southwest due to increased chloride concentrations and saltwater intrusion near the present coastline (Chowdhury, et al., 2004). The Gulf Coast Aquifer is divisible into four discrete hydrogeologic units, which can generally be correlated to different stratigraphic units with distinct hydraulic properties.

The youngest and uppermost aquifer unit within the Gulf Coast Aquifer is the Chicot Aquifer, which consists of Pleistocene and Holocene Series strata (Figures 6.2 and 6.3). The Lissie Formation (equivalent to the Montgomery and Bentley Formations indicated in Figure 6.2) and Beaumont Clay are the two dominant subdivisions of the Pleistocene system. However, the Alto Loma Sand and Willis Formation can be locally extensive in parts of the Texas Coastal Plain. In northern Goliad County, the Pleistocene series is missing from the stratigraphic section and no Chicot Aquifer is present. The Chicot is an important aquifer down dip of the UEC regional study area closer to the present coast.

In the UEC regional study area the Goliad Sand outcrops at the surface and is part of the first aquifer unit encountered in the subsurface. As indicated in Figures 6.2 and 6.3, the Goliad is entirely contained within the Evangeline Aquifer; however the aquifer unit also extends into sands within the upper portion of the underlying Fleming Group. The Evangeline is typically wedge shaped and thickens significantly toward the coast. The Evangeline has a high sand-clay ratio and is a prolific aquifer moving towards the coast (Baker, 1979). In Goliad County, the Goliad Sand consists of up to 500 feet of predominantly sand containing some clay and gravel beds and is reported to yield small supplies of variable quality water to wells (Figure 6.4) (Dale, et al., 1957).

The Burkeville Confining System lies beneath the Evangeline Aquifer in the regional study area. The Burkeville is a hydrostratigraphic unit that separates the Evangeline Aquifer from the underlying Jasper Aquifer. The Burkeville generally corresponds to the Lagarto Clay of the Fleming Group and contains a relatively large percentage of silt and clay compared to the overlying and underlying aquifers and retards the interchange of water between the aquifers (Baker, 1979).

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Age		Geologic t		Character of rocks	Water supply
System	Series	unit	(feet)		
Quaternary	Recent	Alluvium	0-30	Clay, silt, sand, and gravel.	Not important as an aquifor in Coliad County.
	Pleistocene	Beaumont clay	0~50	Clay containing layers of sand.	Not important as an aquifer in Goliad County.
		Lissie formation	0~500	Thick beds of send containing lentils of gravel and layers of clay and silt.	Yields small supplies of fresh water for domestic and stock use.
Tertiary	Pliocene	Goliad sand	0-500	Predominantly sandstone and sand containing some clay and gravel. The sand and gravel are impregnated with caliche.	Yields small supplies of water of variable quality for domestic and stock use.
	Miocene(?)	Lagarto clay	800-1, 200	Clay and sandy clay contain- ing interbedded layers of sand and sandstone	Yields moderately large supplies of fresh water for municipal and industrial use:
	Miocene	Oakville sand- stone	450-700	Crossbedded sand and sandstone containing interbedded sandy, ashy, or bentonitic clay.	Yields moderately large supplies of fresh water for industrial use in the northwestern half of the county.
	Miocene(?)	Catahoula tuff	?	Predominantly volcanic tuff and tuffaceous clay con- taining sandstone lentils,	Not a fresh-water aquifer in Goliad County.

FIGURE 6.4

Hydrostratigraphic Column for Goliad County, Texas

Prepared For:

Uranium Energy Corp

DRAWN BY:	DATE:
Weegar-Eide & Associates, LLC	7/10/07
DRAWING NO:	SCALE:
Fig 6-4.cdr	No Scale

Source: Dale, O. C., Moulder, E. A., and Arnow, T., 1957, Groundwater Resources of Goliad County, Texas, Texas Board of Water Engineers Bulletin 5711, 93 pp.

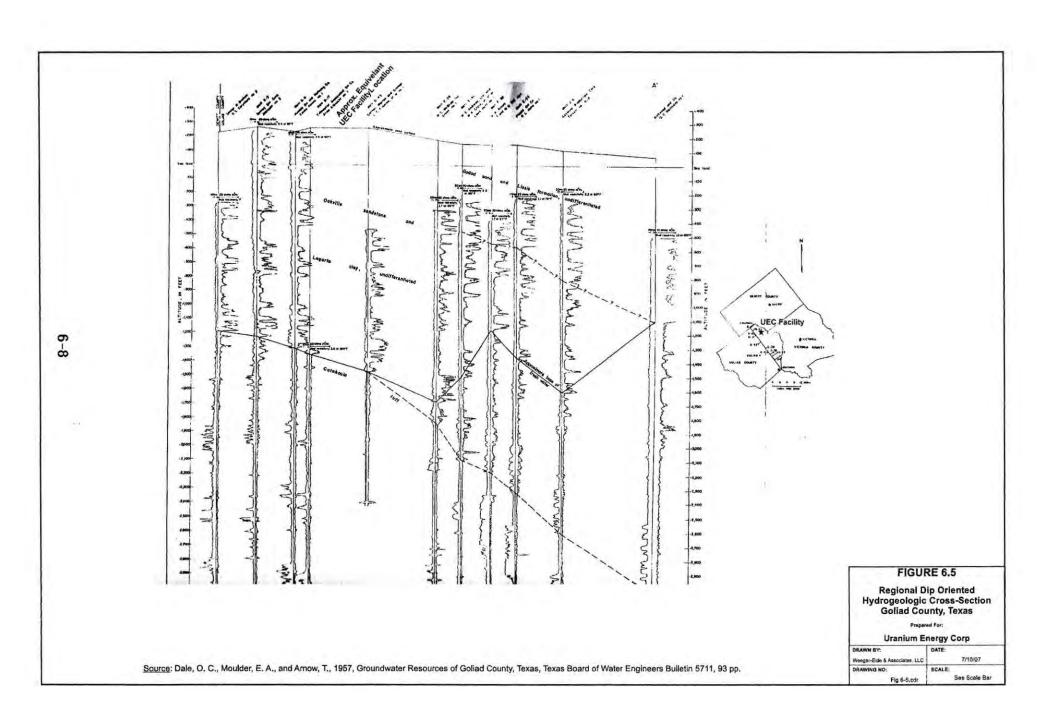
In Goliad County, the Lagarto Clay consists of 800 to 1,200 feet of clay and sandy clay containing interbedded layers of sand and sandstone capable of yielding moderately large quantities of water to wells (Figure 6.4) (Dale, et al., 1957).

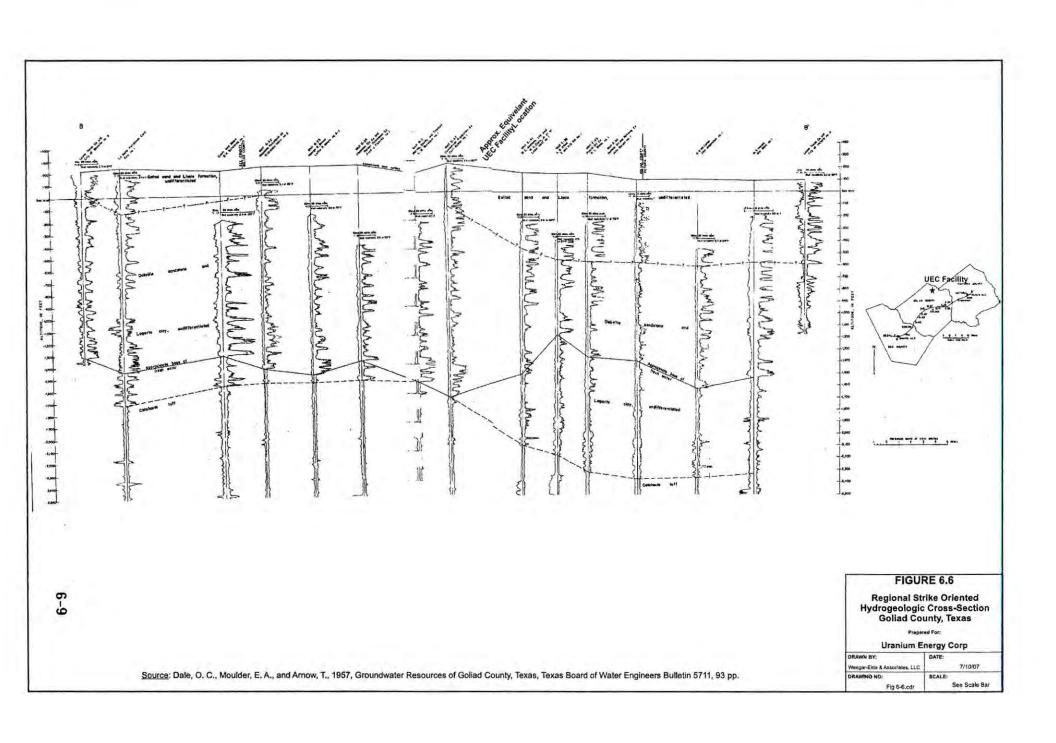
The Jasper Aquifer lies beneath the Burkeville Confining System in the Texas Coastal Plain region. In the regional study area, the base of the Jasper Aquifer corresponds with the base of the Oakville Sandstone of the Fleming Group and generally denotes the base of the USDW (Figures 6.3, through 6.6). However, moving down dip toward the coast, the Jasper Aquifer may extend into the sands associated with the Catahoula Tuff of the Catahoula Group where they are differentiated (Baker, 1979). In Goliad County the Oakville Sandstone is reported to consist of 450 to 700 feet of cross bedded sand and sandstone containing interbedded sandy bentonitic clay (Figure 6.4) (Dale, et al., 1957).

The base of the Texas Coastal Plain hydrostratigraphic framework is the Catahoula Confining System. In general, the Catahoula Confining System consists of up to 2,000 feet of predominantly clays and silts associated with the Lower Portion of the Catahoula Group including the Frio Formation, Anahuac Formation, and Catahoula Tuff. In Goliad County, the upper portion of the unit (Catahoula Tuff) is predominantly volcanic tuff and tuffaceous clay containing sandstone lentils and is not recognized as a USDW (Figure 6.4) (Dale, et al., 1957).

6.2. Permit Area Hydrology

The UEC Permit Area lies within northern Goliad County as indicated on Figures 1.1 through 1.3. The topography of the Permit Area is gently rolling and the elevation varies from a high of approximately 270 feet above mean seal level (MSL) in the western part of the permit area to a low of approximately 190 feet MSL in the southeastern portion of the area.





The depth to groundwater in northern Goliad county ranges from several feet to approximately 100 feet below ground level (BGL). Recharge to the groundwater system is predominantly through surface infiltration of precipitation falling on the outcrop of the respective aquifer systems. The San Antonio River, which runs through the central part of the county, is the only permanent stream in Goliad County.

The uppermost aquifer within the UEC Permit Area is the Evangeline Aquifer. In general, the Evangeline Aquifer consists of the Goliad Sand in the regional study area. However, the boundary of the Evangeline may extend into the sands of the underlying Lagarto Clay of the Fleming Group. The Goliad Sand is reported to unconformably overlie the Lagarto Clay; however the basal sands of the Goliad are hard to distinguish from the sand beds within the upper portion of the Lagarto (Dale, et al., 1957). In general, the Goliad Sand consists of up to 500 feet of predominantly light colored, fine to coarse grained, sand and sandstone with interbedded clay and gravel. The sand and gravel are typically impregnated and cemented with caliche, which imparts the characteristic light color to the sands. The Goliad is reported to yield small quantities of variable quality water to wells in Goliad County. In the UEC permit area the base of the Goliad occurs at an approximate depth of 400 feet BGL.

Regionally, the Goliad Sand is generally viewed as a large single aquifer system. However within the proposed UEC Permit Area, hydrogeological study indicates that the Goliad can be subdivided into four (4) sand layers with intervening layers of clay which constitute confining strata. The stratigraphic relationship of the individual sand layers is illustrated in the detailed strike and dip oriented cross-sections whose locations are shown on Figure 6.7 Cross-section Index Map). The cross-sections are presented as Figures 6.8 through 6.13. Table 6.1 provides information on: (1) the average depth from the surface to the top and base of each production sand; (2) the average elevation of the top and base of each production sand, relative to Mean Sea Level (MSL); and (3) the average thickness of each production sand. Water levels obtained from UEC's baseline wells can be found on Table 6.2.

Figures 6.7 through 6.13 (see Map Appendix C)

Table 6.1 Production Zone Sand - Depth, Elevation and Average Thickness

(Feet)	(Feet)	to Top (Feet)	to Base (Feet)	Thickness (Feet)
				(reet)
45	99	197	131	65
145	181	86	49	36
212	269	3	-34	36
304	385	-75	-155	80
	145 212	145 181 212 269	145 181 86 212 269 3	145 181 86 49 212 269 3 -34

^{*}Mean Sea Level

Table 6.2 Permit Area Water Levels

	Depth to	Depth	Surface
	Ground	to Ground	Elevation
	Water	Water	Feet
	Feet	Feet*	¢
RBLA-1	64.61	62.86	221
RBLA-2	83.49	81.91	241
RBLA-3	80.50	79.38	238
RBLA-4	87.80	86.05	245
RBLA-5	74.54	72.46	231
RBLB-1	73.01	71.26	233
RBLB-2	50.30	49.05	220
RBLB-3	71.52	70.23	232
RBLB-4	71.73	70.19	233
RBLB-5	71.20	69.95	232
RBLC-1	76.50	74.71	244
RBLC-2	63.31	61.81	233
RBLC-3	64.53	62.86	226
RBLC-4	59.32	57.40	222
RBLC-7	71.20	70.24	245
RBLD-1	54.80	54.05	221
RBLD-2	83.32	81.24	231
RBLD-3A	70,00	69.00	220
RBLD-5	89.30	88.63	237
RBLD-6	88.35	87.10	254

^{*}Depth to groundwater corrected for casing height above ground.

6.2.1 Permit Area Production Zone Sands

The four sand units have been internally labeled by UEC in descending order from the surface as: Sand A, Sand B, Sand C and Sand D. Each of these units constitutes a discrete individual aquifer unit within the mine area. In the study area, the Goliad Aquifer has a hydraulic gradient of approximately 5.5 feet per mile, and the direction of flow is to the southeast toward the Gulf of Mexico. Groundwater flow rate is approximately 6.7 feet per year.

Sand A is the uppermost sand in the permit area. This sand is the first sand unit encountered below the surface in the permit area. The average depth from the surface to the top of the sand is 45 feet, and its average thickness is 65 feet. It is capped by a clay layer of variable thickness that provides confinement. In a few small places outside of the area of mining interest, Sand A is exposed at the surface (Figures 6.8 through 6.13). Figures 6.14 and 6.15 are structure and isopach maps, respectively of Sand A within the permit area. The maps show faulting, variation in depth to the top of the unit and thickness of Sand A. Table 6.2 shows water levels taken from five baseline wells completed in Sand A. In general, Sand A is considered to be under water table conditions.

Sand B is the second aquifer unit encountered at an average depth of 145 feet BGL. Sand B is separated from the overlying Sand A by a substantial layer of clay, providing confinement. This confining layer is pervasive across the permit area. In general, Sand B is 36 feet thick and comprises one of the ore zones within the permit area. Figures 6.16 and 6.17 are structure and isopach maps, respectively of Sand B within the permit area. The maps show faulting, variation in depth to the top of the unit and thickness of Sand B. See Table 6.2 for Sand B water levels. In general, Sand B is also considered to be under confined conditions.

Sand C is the third sand unit encountered at an average depth of 212 feet BGL. Sand C is separated from the overlying Sand B by a substantial clay layer. In general, Sand C is 36 feet thick and comprises one of the ore zones within the permit area. Figures 6.18 and 6.19 are structure and isopach maps, respectively of Sand C within the permit area.

Figures 6.8 through 6.19 (see Map Appendix C)

The maps show faulting, variation in depth to the top of the unit and thickness of Sand C. Sand C is considered to be under confined conditions.

Sand D is the fourth sand unit encountered at an average depth of 304 feet BGL. This sand is separated from the overlying Sand C by a substantial clay layer that is pervasive throughout the permit area (see previously mentioned cross-sections). In general, Sand D is 80 feet thick and comprises one of the ore zones within the permit area. Figures 6.20 and 6.21 are structure and isopach maps, respectively of Sand D within the permit area. The maps show faulting, variation in depth to the top of the unit and thickness of Sand D. Sand D also is considered to be under confined conditions.

The Lagarto Clay (Fleming Group) is the next stratigraphic unit encountered beneath the Goliad Sand. The Lagarto conformably overlies the Oakville Sandstone in Goliad County. The Lagarto is reported to consist of up to 1,200 feet of dark colored clay and sandy clay with intercalated beds of sand and sandstone. In the permit area, the sand beds contain fresh water, which may be of better quality than that found in the overlying Goliad (Dale, et al. 1957). In general, the upper part of the Lagarto is sandier than the middle and lower portions. The sands in the upper portion of the Lagarto are considered to be part of the Evangeline Aquifer System, however the sands are separated from the overlying Goliad by relatively thick clay layers and probably constitute a discrete aquifer system comprising the first underlying aquifer. The middle and lower portions of the Lagarto constitute the Burkeville Confining System hydrostratigraphic unit described previously. However, discrete sands within the lower and middle Lagarto may contain large supplies of fresh water, which is reported to be under artesian pressure in the middle part of Goliad County (Dale, et al. 1957). The town of Goliad, which is located approximately 14-miles to the south of the permit area, utilizes municipal water supply wells producing from the Lagarto Clay.

The direction of groundwater flow, hydraulic gradient and flow velocity were discussed earlier in this section. Figures 6.22 and 6.23 show the potentiometric surface for UEC's project site and for the region, respectively.

Figures 6.20 and 6.21 (see Map Appendix C)

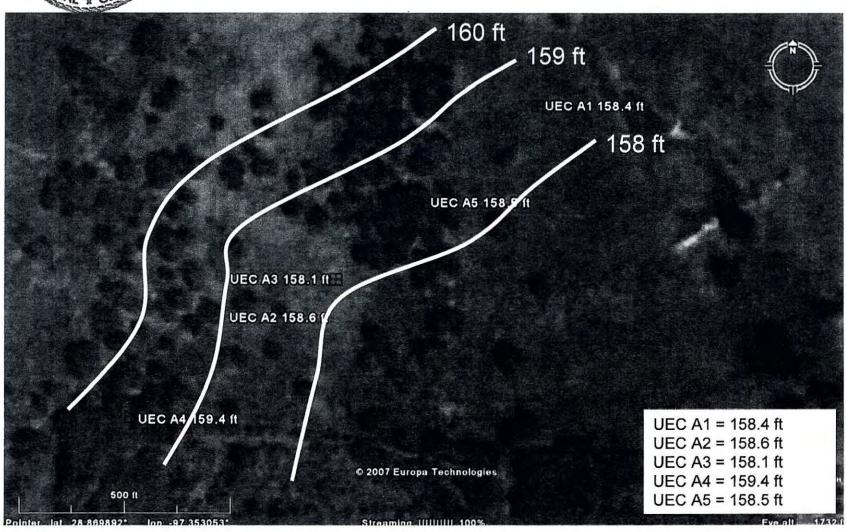
The Lagarto is underlain by the Oakville Sandstone. The Oakville generally comprises the Jasper Aquifer System and essentially is the base of the USDW in the proposed UEC Permit Area. The Oakville consists of up to 700 feet of cross-bedded sand and sandstone interbedded with lesser amounts of sandy, ashy, bentonitic clay (Dale, et al. 1957).



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Figure 6.22

UEC A Sand Potentiometric Surface



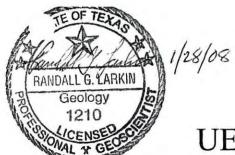
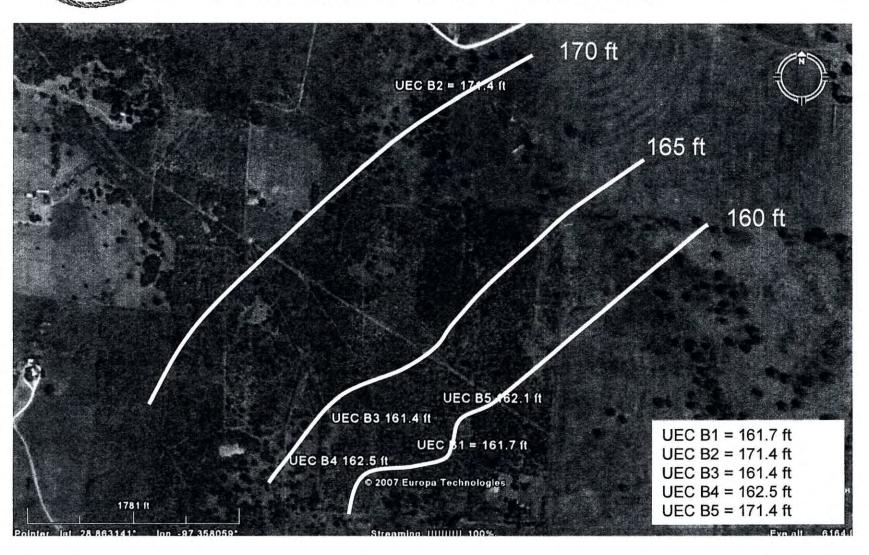


Figure 6.22

UEC B Sand Potentiometric Surface



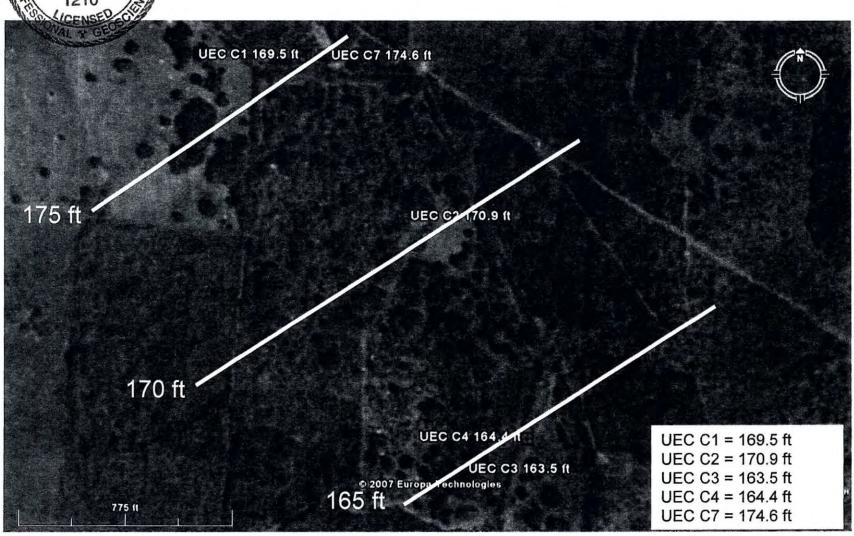
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Figure 6.22

UEC C Sand Potentiometric Surface



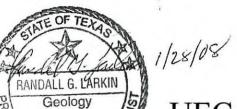
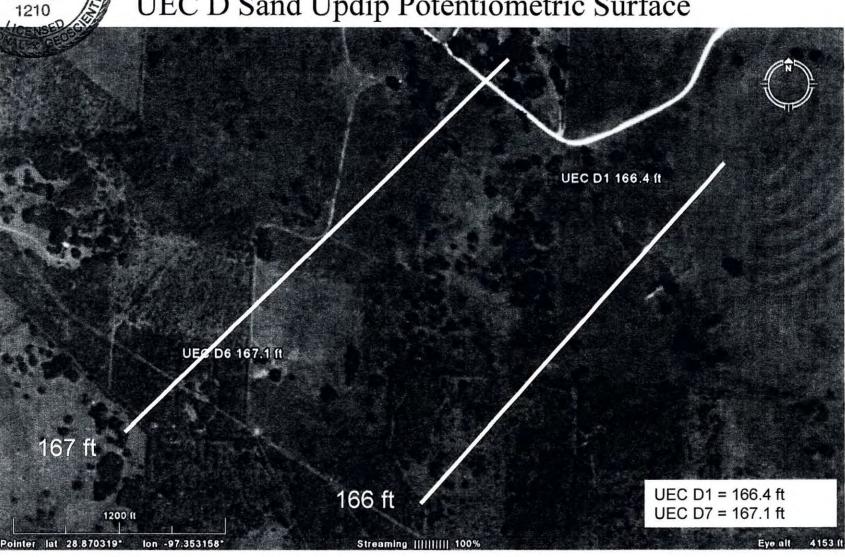


Figure 6.22

UEC D Sand Updip Potentiometric Surface



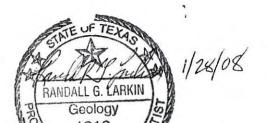
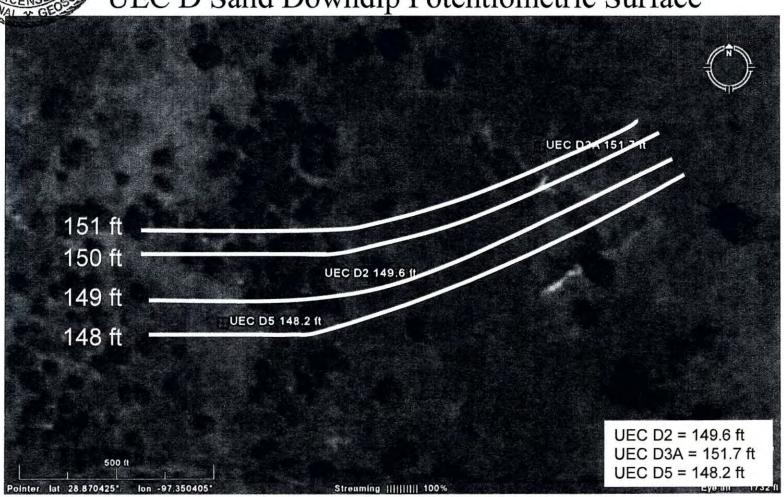


Figure 6.22

UEC D Sand Downdip Potentiometric Surface



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(www.beg.utexas.edu/UTopia/images/pagesizemaps/physiography.pdf)

7.0 Geology



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7.0 Geology

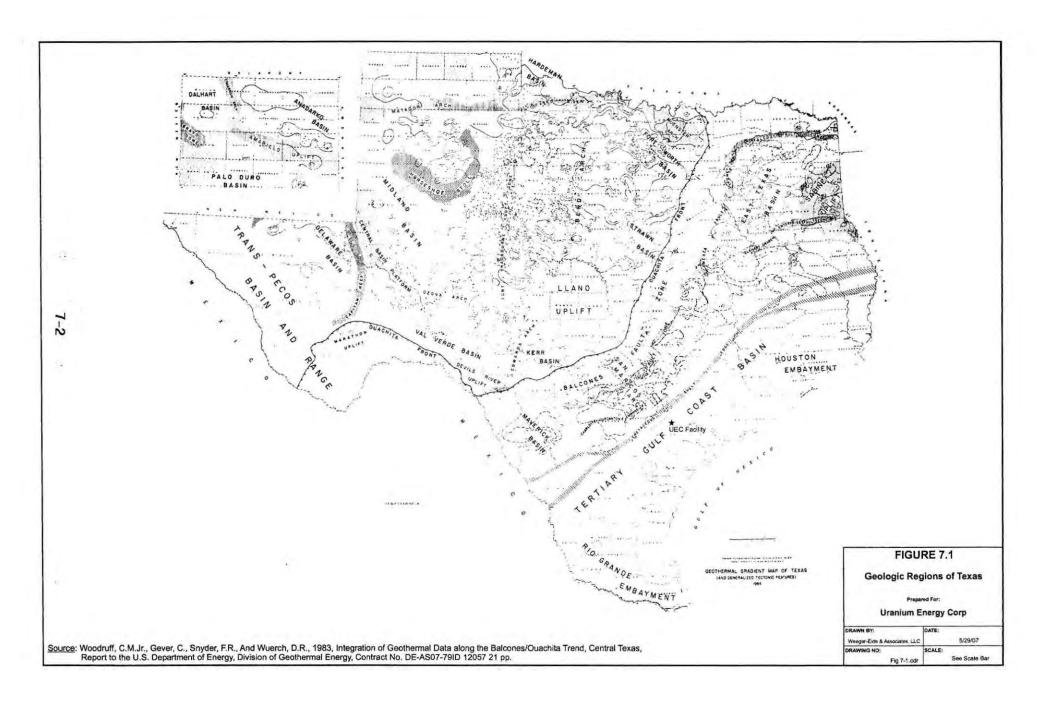
Section seven of the Permit Application Technical Report describes the regional and permit area stratigraphic and structural geology, and lithology, pertinent to the proposed uranium recovery project.

7.1 Regional Geology

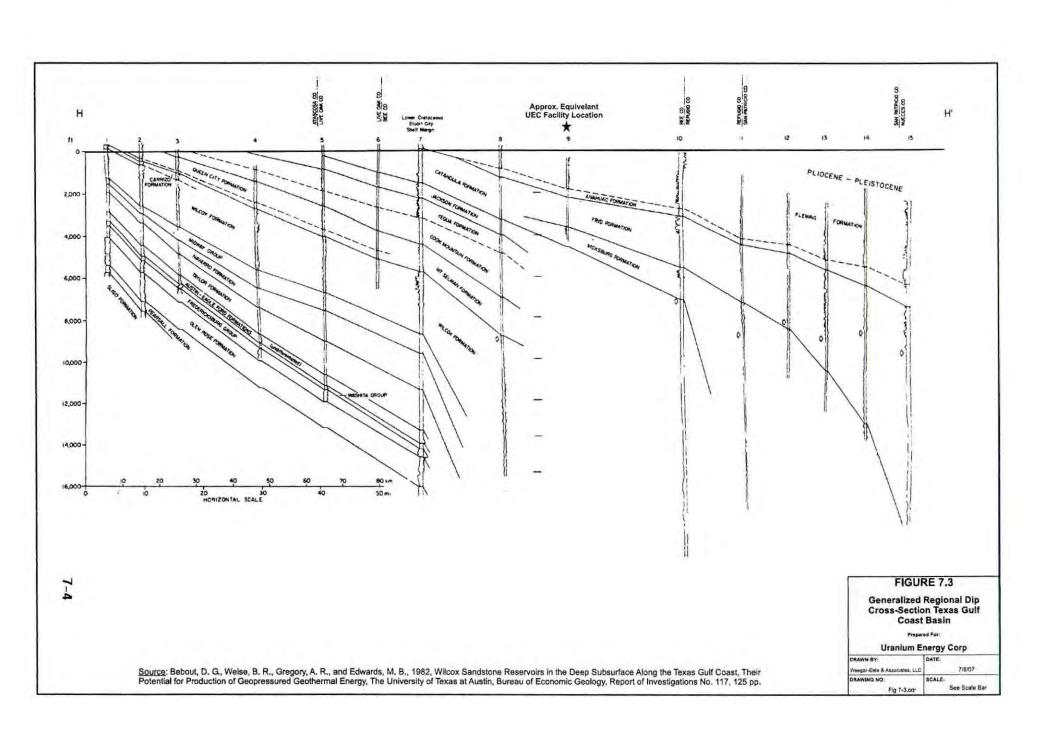
UEC's proposed ISR operation is located in northern Goliad County within the Gulf Coast Basin geologic region of Texas (Figure 7.1). The Gulf Coast Basin is generally filled with a thick wedge of interbedded and intermixed Tertiary and Quaternary clastic deposits of fluvial, deltaic, and marine origin that were deposited within a slowly subsiding passive margin basin. The basin strata generally thicken and deepen toward the present Gulf of Mexico to approximately 30,000 feet of sediment thickness.

7.1.1 Regional Stratigraphy

The regional stratigraphy consists of Jurassic to Recent aged strata. The regional stratigraphy is shown on the stratigraphic column included as Figure 7.2. Figure 7.3 is a regional dip cross-section showing the stratigraphic relationships and general log character for stratigraphic intervals in the regional study area. Figures 7.4 and 7.5 are regional strike and dip cross-sections respectively showing the shallow geological interval (Miocene to the surface) in Goliad County which is more specific to UEC's Mine Permit Application. In the regional study area the Jurassic and Cretaceous strata lie at great depth (>10,000 feet MSL) and are not pertinent to this discussion. In general, the Jurassic strata consist of continental redbeds and evaporite deposits laid down contemporaneously with the rifting and subsequent thermal subsidence of the Gulf Coast Basin associated with the breakup of the Pangean supercontinent. The Cretaceous geological section is represented by numerous rock units in the Gulf Coast Basin (Figure 7.2). In general, Cretaceous sediments primarily consist of layered carbonates and clastics deposited during periods of high and low relative sea level respectively.



SYSTEM	SERIES (AGE)	EAST TEXAS BASIN	HOUSTON EMBAYMENT and SAN MARCOS ARCH	RIO GRANDE EMBAYMENT															
OUAT			BEAUMONT (HOUSTON)	HOUSTON															
	Pud		WILLIS	GOLIAD															
	MIDCENE		FLEMING	LAGARTO															
	×		ANAHUAC	OAKVILLE "CATAHOULA" ANAHUAC															
	OLIGOCENE		O HACKBERRY	FRIO															
ERTIARY	OLIG		FRIO	VICKSBURG															
2			JACKSON	JACKSON															
=	60	YEGUA	YEGUA (COCKFIELD)	YEGUA															
	EOCENE	COOK MOUNTAIN	COOK MOUNTAIN	COOK MOUNTAIN															
- 1	00	SPARTA WECHES	SPARTA WECHES	SPARTA WECHES															
		QUEEN CITY	QUEEN CITY	QUEEN CITY															
		REKLAW CARRIZO	CARRIZO	CARRIZO															
1		WILCOX	WILCOX	WILCOX															
	PALEO	MIDWAY	MIDWAY	MIDWAY															
		NAVARRO NAVARRO	NAVARRO	ESCONDIDO															
		UPPER TAYLOR PECAN GAP	TAYLOR	OLMOS															
		LOWER TAYLOR	"SERPENTINE" AND DALE LIME	SAN MIGUEL ANACACHO UPSON															
	FIAN	AUSTIN	AUSTIN	AUSTIN															
	GUL	SUB-CLARKSVILLE EAGLE COKER FORD	EAGLE FORD	EACLE FORD															
																	LEWIS- VILLE WOOD- BINE	WOODBINE	EAGLE FORD
EOUS		BUDA	BUDA	BUDA															
O		GRAYSON	DEL RIO	DEL RIO															
CRETA		GEORGETOWN	GEORGETOWN PERSON STUART	GEORGETOWN SALMON PEAK															
2	NA	FREDERICKSBURG	EDWARDS KAINER CITY	EDWARDS MCKNIGHT CITY															
	COMANCHEAN	PALUXY UPPER GLEN ROSE																	
	OM	MOORINGSPORT	GLEN ROSE	GLEN ROSE															
	1	BACON LIME																	
		O RODESSA PINE JAMES LIME ISLAND	PEARSALL	PEARSALL															
	z	PETTET (SLIGO)	SLIGO	SLIGO															
	COAHUILAN	HOSSTON (TRAVIS PEAK)	HOSSTON	HOSSTON	FIGURE 7.2														
-	-	COTTON VALLEY	COTTON VALLEY	COTTON VALLEY	Regional Stratigraphic Column														
	UPPER	GILMER (COTTON VALLEY LIME)		GILMER	Regional Stratigraphic Column														
2	3	BUCKNER SMACKOVER	SMACKOVER	SMACKOVER	Prepared For:														
AS	-	NORPHLET	NORPHLET	NORPHLET	Uranium Energy Corp														
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The geometry of the Cretaceous shoreline in the Central Texas region was thought to resemble the current shoreline configuration. Late Cretaceous sedimentation in the Gulf Coast Basin is characterized by the drowning of reefs and extensive deposition of chalk, marls, and marine shales. In the central Texas area, Cretaceous rocks outcrop on the up thrown side of the Balcones Fault Zone (Figure 7.1) approximately 90 miles to the west and northwest of UEC's site.

The Tertiary System comprises a large part of the sediments occupying the Gulf Coast Basin. The oldest Tertiary rocks in the basin are the Paleocene Series Midway Group. The Midway Group generally consists of dense calcareous marine shales, which unconformably overlie older Cretaceous strata.

Transgression and regression of the Midway Sea was followed by widespread deposition of the upper Paleocene to lower Eocene aged Wilcox Group clastics (Waters, et al., 1955). The Wilcox consists of complexly interbedded sands, silts, and shales that thicken significantly from west to east. The Wilcox Group sediments are fluvial and deltaic deposits from source material associated with the Laramide orogeny. In the vicinity of the project site, the Wilcox sediments are primarily thought to be deltaic in origin.

The Carrizo Sand of lower Eocene age overlies the Wilcox Group. Although the Carrizo Formation, which is non-marine (fluvial) in origin, is discernible in the outcrop, the down dip Carrizo is indistinguishable from the upper Wilcox (Hamlin, 1988). In the vicinity of the UEC's site, the Wilcox and Carrizo are undifferentiated and the top of the Wilcox/Carrizo occurs at an approximate elevation of –8,000 feet mean sea level (msl).

The Eocene aged Claiborne Group unconformably overlies the Wilcox/Carrizo Group. The Claiborne Group generally consists of interbedded clastics of fluvial, deltaic, marginal marine and marine origin. In the regional study area, the Claiborne Group consists of (from oldest to youngest): 1) Reklaw Formation – marine shales; 2) Queen City Formation – deltaic sands, silts, and shales; 3) Weches Formation – marine shales;

4) Sparta Formation – deltaic and marginal marine sands, silts, and shales; Cook Mountain Formation – glauconitic sands and marine shales; and 5) Yegua Formation – deltaic and marginal marine sands, silts, and shales (Waters, et al., 1955). For the purpose of this study, the Claiborne Group is undivided.

The upper Eocene Jackson Group overlies the Claiborne Group in the regional study area. The Jackson Group consists predominantly of marine shale and marl in southeast Texas with the percentage of sandstone increasing southwestward (Waters, et al., 1955). The Jackson Group can be subdivided into five formations which are (from oldest to youngest): 1) Moody's Branch Formation; 2) Caddell Formation; 3) Wellborn Formation; 4) McElroy Formation; and 5) Whitsett Formation. However, in the regional study area the Jackson Group is undivided.

The lower Oligocene-aged Vicksburg Group, aka Vicksburg Formation, overlies the Jackson Group in the regional study area. The Vicksburg Group consists of fluvial, deltaic and marginal marine deposits comprised of sand, silt, and clay. In the vicinity of the project site the Vicksburg Group strata are interpreted as shallow marine strand plain deposits derived from longshore drift (Combs, 1993).

The upper Oligocene Catahoula Group unconformably overlies the Vicksburg Group. In the regional study area the Catahoula Group can be subdivided into the three formations, which are from oldest to youngest: 1) Frio Formation, 2) Anahuac Formation, and 3) Catahoula Tuff Formation. The Frio Formation consists of consists of predominantly shale with some interbedded sands in the upper part of the formation. The Anahuac Formation consists predominantly of marine shale. The Catahoula Tuff consists of predominantly of shale with some interbedded tuffaceous sands which are predominantly found in discontinuous lenses.

The Miocene Fleming Group overlies the Catahoula Group. In the regional study area, the Fleming Group can be subdivided into a lower Oakville (Sandstone) Formation and upper Lagarto (Clay) Formation. In general, the Oakville Formation consists of sands with lesser amounts of silts and clays and comprises the base of the lowermost underground source of drinking water (USDW).

The Legarto Formation overlies the Oakville and consists predominantly of clay with minor amounts of sand and silt. The sands in the Legarto are most common in the upper and lower parts of the formation in Goliad County (Dale, et al., 1957).

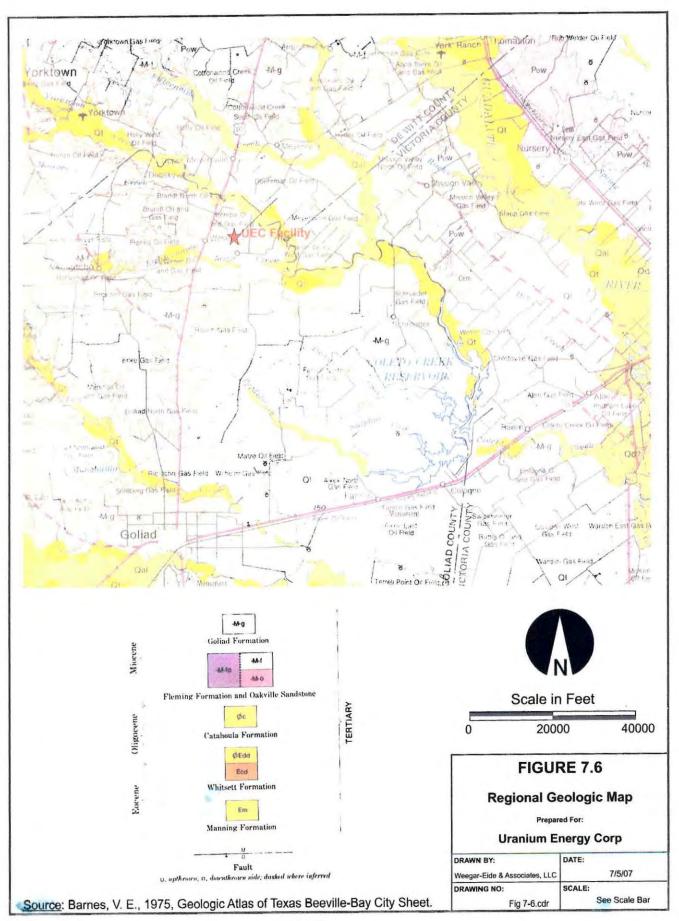
The Pliocene aged Goliad Formation overlies the Fleming Group and outcrops at the surface in the Regional study area (Figure 7.6). The Goliad consists predominantly of sandstone and sand with interbedded gravel, silt, and clay. The sand and gravel are often impregnated and cemented with caliche (Dale, et al., 1957).

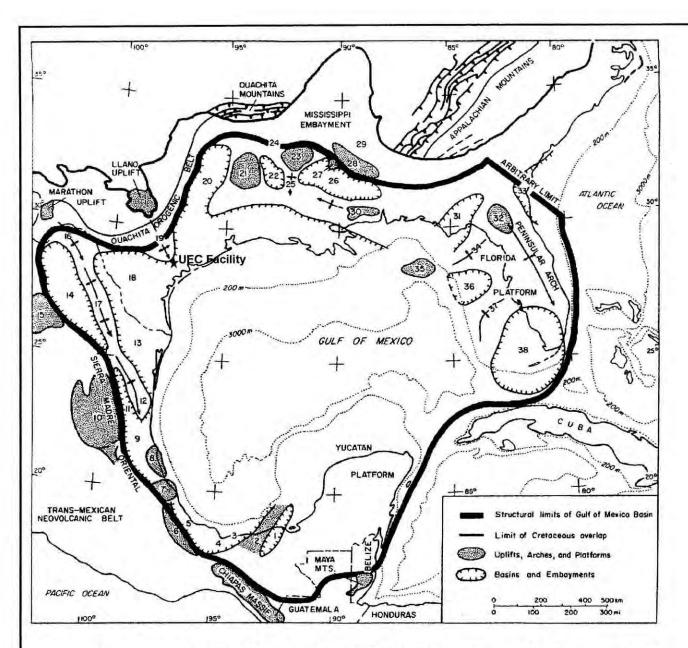
7.1.2 Regional Structural Geology

UEC's project site in northern Goliad County lies within the Gulf Coast Basin geologic region of Texas (Figure 7.1). The basin is part of the larger Gulf of Mexico Basin, which was formed by down warping and rifting of Paleozoic basement rocks during the breakup of the Paleozoic super-continent Pangea, during the Late Triassic period. Figure 7.7 is a schematic representation of the Gulf of Mexico Basin indicating the geographic extent of the basin and showing significant substructures within the basin (Salvador, 1991).

Initial sedimentation within the basin consisted of synrift clastic deposits and evaporites of Jurassic age. This was followed by deposition of a thick section of predominantly carbonate rocks in the early and middle Cretaceous Period. The late Cretaceous and Tertiary were characterized by a thick wedge of clastic deposits of fluvial, deltaic, and marine origin. The source of the sediments was from the west-northwest and associated with the Laramide orogeny and subsequent erosion from the ancestral and recent Rocky Mountains.

In the central Texas area, the Balcones Fault Zone generally forms the outer rim of the Gulf Coast Basin. The Balcones Fault Zone generally trends parallel to the structural fabric of the older Ouachita Orogenic Belt in a general southwest to northeast direction.





Structures in the Gulf of Mexico Basin include the: (1) Macuspana basin, (2) Villahermosa uplift, (3) Comalcalco basin, (4) Isthmus Saline basin, (5) Veracruz basin, (6) Cordoba platform, (7) Santa Ana massif, (8) Tuxpan platform, (9) Tampico-Misantla basin, (10) Valles-San Luis Potosi platform, (11) Magiscatzin basin, (12) Tamapulias arch, (13) Burgos basin, (14) Sabinas basin, (15) Cohuila platform, (16) El Burro uplift, (17) Peoytes-Picachos arches, (18) Rio Grande embayment, (19) San Marcos arch, (20) East Texas basin, (21) Sabine uplift, (22) North Louisiana salt basin, (23) Monroe uplift, (24) Desha basin, (25) La Salle arch, (26) Mississippi salt basin, (27) Jackson dome, (28) Central Mississippi deformed belt, (29) Black Warrior basin, (30) Wiggins uplift, (31) Apalachicola embayment, (32) Ocala uplift, (33) Southeast Georgia embayment, (34) Middle Ground arch, (35) Southern platform, (36) Tampa embayment, (37) Sarasota arch, and (38) South Florida basin (from Salvador, 1991).

FIGURE 7.7

Geographic Extent and Structural Regions in the Gulf of Mexico Basin

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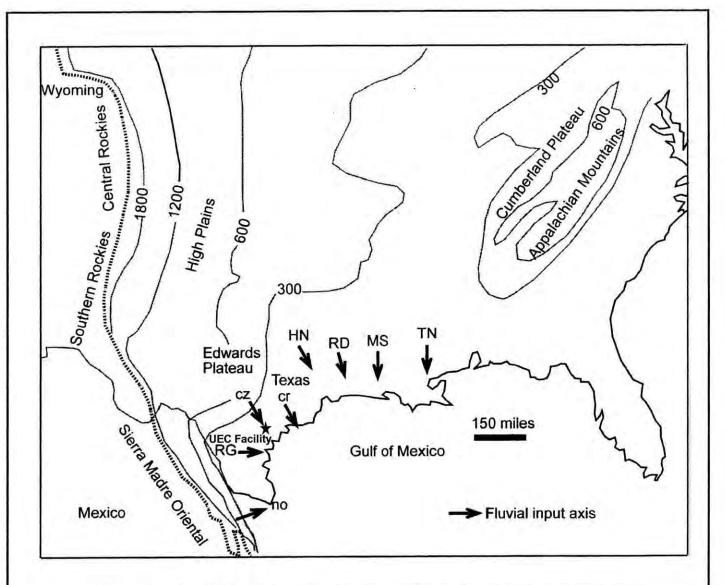
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Source: Salvador, A., 1991, Introduction, in Salvador, A., editor, The Gulf of Mexico Basin: Geological Society of America, The Geology of North America, vol. J, p 1-12.

A structural high known as the San Marcos Arch extends perpendicular to the fault trend into the Texas Gulf Coast Basin and generally separates the basin into to two subbasins or embayments known as the Rio Grande Embayment (to the south) and the Houston Embayment (to the north) (Figures 7.1 and 7.7). The San Marcos Arch is an area of lesser subsidence and is a subsurface extension of the Llano Uplift (Chowdhury and Turco, 2006). The arch may be a basement fold associated with tectonic stresses manifested during the Ouachita Orogeny. The regional study area generally lies to the southeast, or down dip, of the San Marcos Arch in the Texas Gulf Coast Basin between the Rio Grande and Houston Embayments (Figure 7.7).

The Texas Gulf Coast Basin contains a thick wedge of Tertiary clastic sediment from source areas to the northwest. The sediments were predominantly deposited by fluvial and deltaic processes and were sometimes reworked in shallow marine and/or deep marine depositional environments. The principal sediment dispersal systems for Cenozoic sediments in the Gulf Coast Basin are shown on Figure 7.8. The relatively high rate of clastic sediment influx into the basin resulted in the formation of growth faults which are down to the coast normal faults that are thought to form contemporaneously with deposition. Growth fault development is thought to be generated by differential compaction in combination with the accumulation of excessive thickness of overburden sediment typically expected near deltaic depositional systems. In general, growth faults are listric (curved) in geometry, have throws that increase with depth, and strata are thicker on the downthrown side. Several major growth fault zones generally parallel the present coastline as indicated in Figure 7.9. UEC's project site lies within the Wilcox growth fault zone. Figure 7.10 is a generalized cross-section showing the depositional and structural style of the Tertiary section in the Texas Gulf Coast Basin in the regional study area. The cross-section illustrates how the growth fault zones get progressively younger moving into the basin and are characterized by sand rich depocenters especially on the downthrown side of the major faults (Solis, 1981).

Salt and shale diapers are also common structural features within the Texas Gulf Coast Basin. Viscous flow of ductile salt and shale can occur in response excessive overburden pressure and abnormal pore pressure due to rapid burial.



Principal sediment dispersal systems for the Cenozoic sediments of the Gulf of Mexico basin. Contours (in feet) indicate modern elevations of the uplands. Fluvial axes no=Norias, RF=Rio Grande, cz=Carrizo, cr=Corsair, HN=Houston, RD=Red River, MS=Mississippi, TN=Tennesse (after Galloway, 2005).

FIGURE 7.8

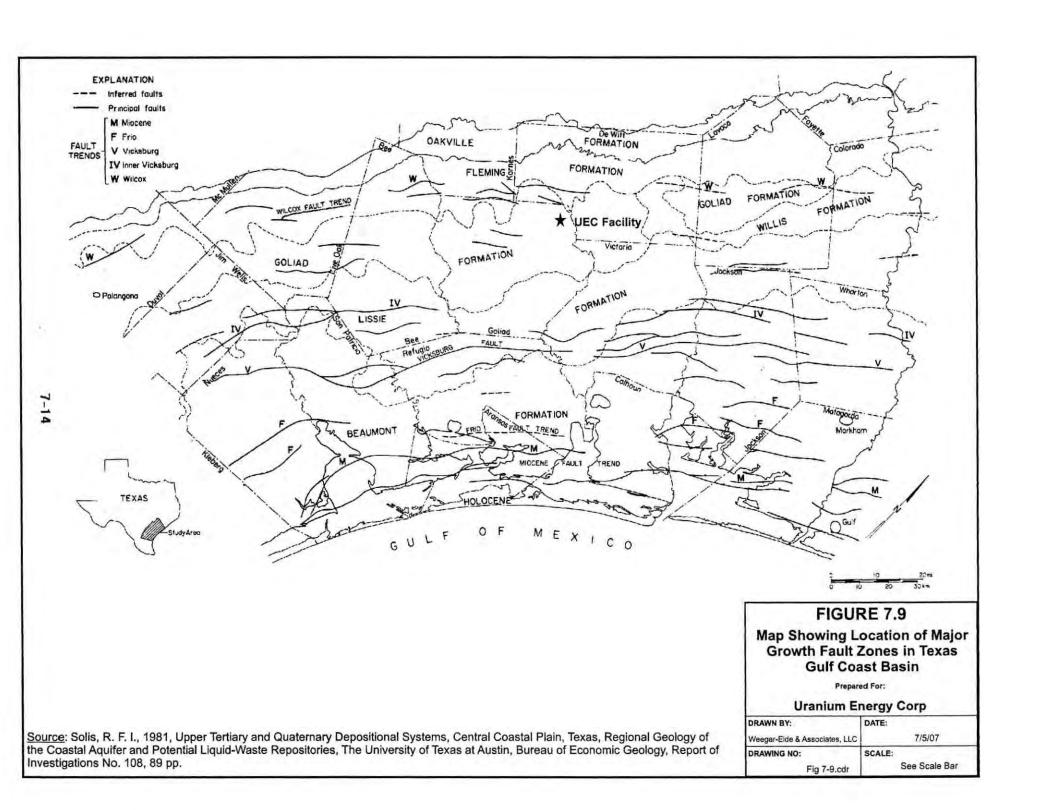
Principal Sediment Dispersal Systems for Cenozoic Sediments in the Gulf of Mexico Basin

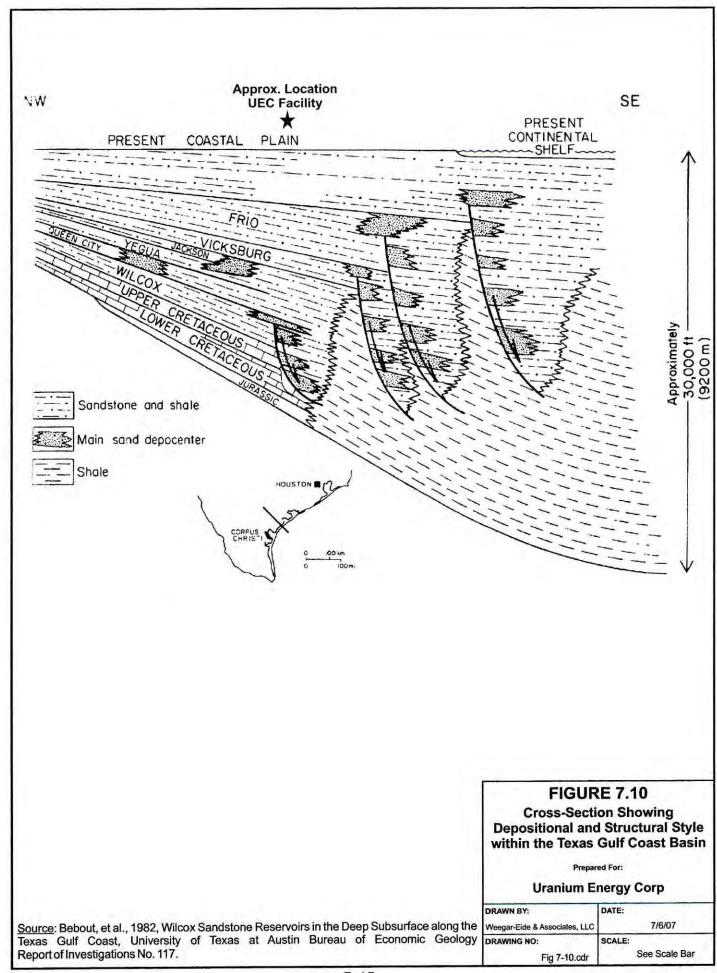
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<u>Source</u>: Chowdhury, A. H., and Turco, M. J., 2006, Geology of the Gulf Coast Aquifer, Texas, in Mace, R. E., et al., editors, Aquifers of the Gulf Coast of Texas, Texas Water Development Board Report 365, p 23-51.





However, no significant diapers are recognized in the regional study area. Salt domes are more common in the northern portion (Houston Embayment) of the Texas Gulf Coast Basin than in the southern portion (Rio Grande Embayment) (Figure 7.11) (Chowderhury and Turco, 2006).

7.1.3 Regional Seismic Activity

The Gulf Coast Basin is a relatively innocuous area with regard to seismic activity. As indicated on the seismic risk map for the United States (Figure 7.12), the Texas Gulf Coast Basin is a very stable area with regard to historical and potential seismic activity. In general, the central and southeast U.S. region encompasses a large area of relatively diffuse, low rate seismicity. Principal areas of activity include the New Madrid Seismic Zone, the East Tennessee, and Southern Appalachian Seismic Zones, and South Carolina. Due to the relatively low rate of seismicity, ground cover, deep soil, etc, most faults within the region are not even mapped. Even the precise location of faults within the New Madrid Seismic Zone is subject to debate (NEIC, 2007). A search of the NEIC historical database information was conducted for the period from 1900 to 2007 within a 50 km circular radius of UEC's permit area. The search identified no seismic events from the multiple databases searched within a 50 km radius of the search coordinates (28.867N; 97.351W).

7.2 Permit Area Geology

As indicated in previously referenced Figures 7.3 and 7.6, the permit area is located within the outcrop of the Goliad Sand. The Goliad Sand generally consists of up to 500 feet of light colored sand and sandstone (typically impregnated with caliche) interbedded with clay and gravel. In Goliad County, the subsurface strata generally strike from southwest to northeast and dip to the southeast at approximately 20 feet/mile near the outcrop, and up to 70 feet/mile away from the outcrop (Dale, et al., 1957).

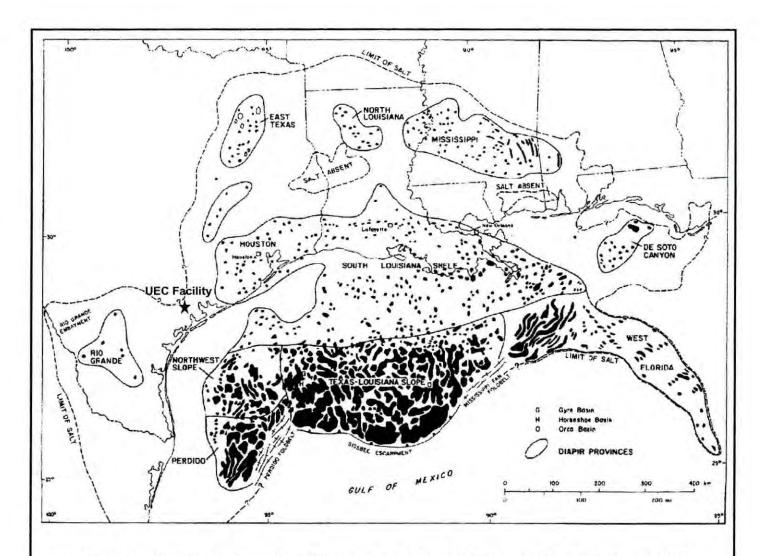


Figure 2-9. Map showing locations of salt deposits in the Gulf of Mexico basin (from Ewing, 1991). Note distribution of salt in the Rio Grande embayment, northeastern part of the Texas Gulf Coast including Houston area, and East Texas. Salt deposits occupy a much wider area in the offshore, in the northwest slope and Texas-Louisiana slope of the Gulf of Mexico basin.

FIGURE 7.11

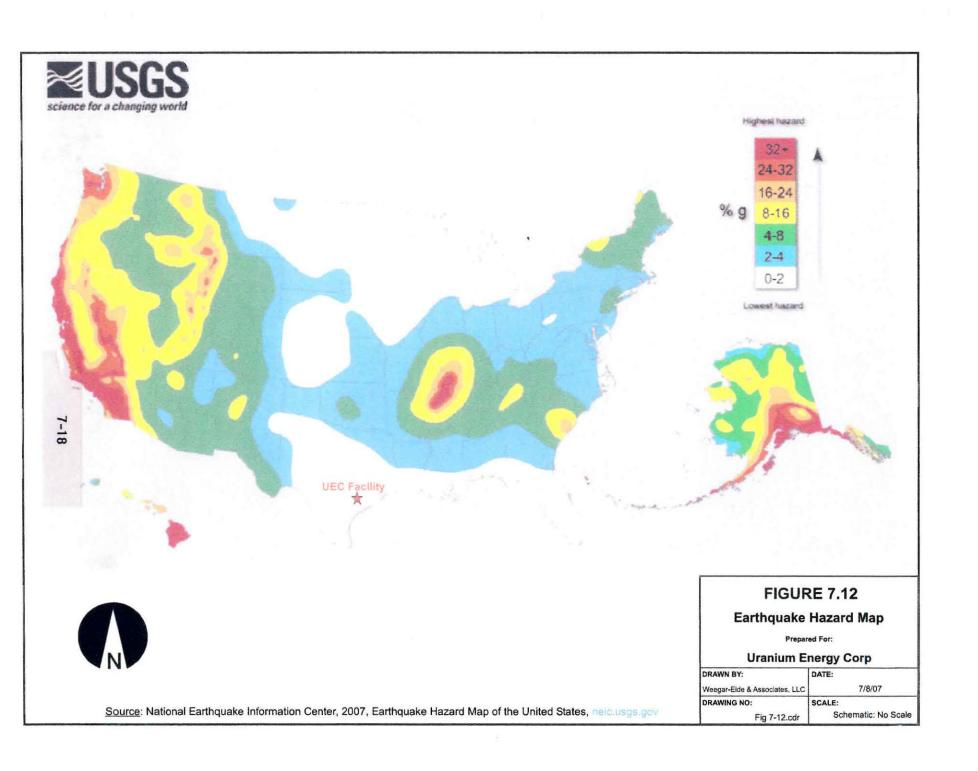
Map Showing Locations of Salt Deposits in the Gulf of Mexico Basin

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Source: Chowdhury, A. H., and Turco, M. J., 2006, Geology of the Gulf Coast Aquifer, Texas, in Mace, R. E., et al., editors, Aquifers of the Gulf Coast of Texas, Texas Water Development Board Report 365, p 23-51.



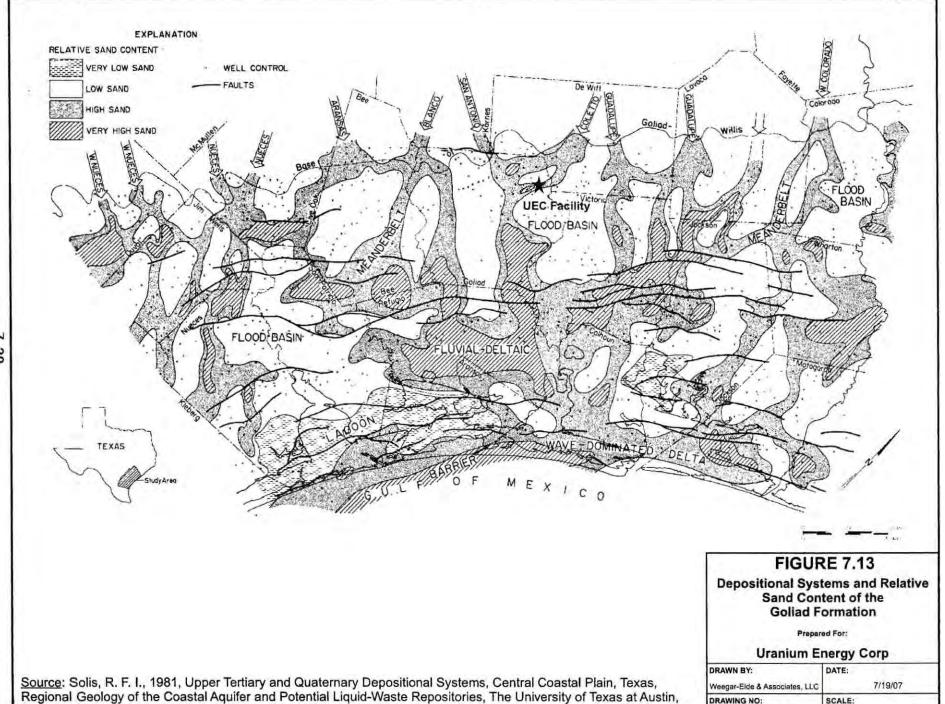
7.2.1 Permit Area Stratigraphy and Lithology

Within the permit area, the Goliad Formation consists predominantly of fluvial facies, having a relatively high sand content (Figure 7-13). The up dip parts of the sand axes contain abundant amounts of coarse grained sand and gravel deposited by braided streams and grade down dip into meanderbelt deposits. Farther down dip, the fluvial system grades into deposits of a wave-dominated deltaic system. In general, the relict river systems to the north of the San Antonio River carried higher sand loads than the relict river systems to the south (Solis, 1981).

The Goliad Formation is approximately 400 feet thick in the permit area. As noted in Section 6.2, it is divided into four discrete sand units: Sand A, Sand B, Sand C, and Sand D. Each of the sand units, with the exception of Sand A in few places, is overlain and underlain by a relatively thick clay layer throughout the study area. Each of these sand units appears to constitute a discrete individual aquifer unit within the mine area and all are within the proposed aquifer exemption zone. Figures 6-8 through 6-13 are detailed strike and dip oriented cross-sections through the proposed permit area which show the stratigraphical, lithological, and structural relationships of the individual sand units. Figures 6.14 through 6.21 are maps showing the structural attitude and thickness of the individual sand units. In the proposed permit area, the Goliad Sand unconformably overlies the Lagarto Clay; however the basal sands of the Goliad are hard to distinguish from the sand beds within the upper portion of the Lagarto (Dale, et al., 1957). For the purpose of this study, the base of the Goliad is coincident with the base of Sand D (Figure 6.20).

Sand A is the uppermost sand unit in the permit area. As indicated on the cross-sections (Figures 6.8 through 6.13) and on the structure and isopach maps (Figures 6.14 and 6.15, respectively) the unit is pervasive throughout the permit area and thins and thickens in a sinuous pattern, characteristic of a fluvial depositional environment. The average depth to the base of Sand A is 99 feet BGL and the average thickness is 65 feet. (Table 6.1).

Bureau of Economic Geology, Report of Investigations No. 108, 89 pp.



See Scale Bar

Fig 7-13.cdr

Sand A is exposed at the surface in the central part of the permit area and no overlying clay is present. This uppermost surface is erosional in this area. As noted previously, this part of the site is not included in any production areas.

Sand B is the second sand unit in the permit area. Again, as noted previously, Sand B lies below Sand A and is isolated from Sand A by a clay barrier. As shown on cross-sections (Figure 6.8 through 6.13), and on the structure and isopach maps (Figures 6.16 and 6.17), the unit thins and thickens within the permit area in a sinuous pattern which is characteristic of a fluvial environment. The average depth to the base of Sand B is 181 feet BGL, and the average thickness is 36 feet.

Sand C is the third unit encountered below the surface in the permit area. As shown on the cross-sections (Figures 6.8 through 6.13) and on the structure and isopach maps (Figures 6.18 and 6.19, respectively) the unit is found in the western part of the permit area and peters out to the north and east. Where the unit is present, it thins and thickens in a sinuous pattern which is characteristic of a fluvial depositional environment. The average depth to the base of Sand C is 269 feet BGL and its average thickness is 36 feet.

Sand D is the fourth and lowermost sand unit encountered below the surface in the permit area. A review of the cross-sections (Figures 6.8 through 6.13) and the structure and isopach maps (Figures 6.20 and 6.21, respectively) show the unit is found throughout the permit area. As with the previously described sand units, Sand D thins and thickens in a sinuous pattern that is characteristic of a fluvial depositions environment. The average depth to the base of Sand D is 385 feet BGL and its average thickness is 80 feet.

The Lagarto Formation (aka Lagarto Clay) of the Fleming Group (Miocene) underlies the Goliad in the Permit Area and extends from the base of the Goliad to a depth of approximately 1600 feet BGL. The upper Lagarto looks very similar lithologically to the Goliad. In general, the upper part of the Lagarto is sandier than the middle and lower portions. The sands in the upper portion of the Lagarto are considered part of the

Evangeline Aquifer System, however the sands are separated from the overlying Goliad by relatively thick clay layers and probably constitute a discrete aquifer system comprising the first underlying aquifer. In general, the Lagarto is described as clay and sandy clay with intercalated beds of sand and sandstone (Dale, et al., 1957).

The Lagarto is underlain by the Oakville Sandstone (Fleming Group-Miocene). The Oakville unconformably overlies the Catahoula Tuff and crops out to the west and northwest of Goliad County. The Oakville consists of up to 700 feet of crossbedded sand and sandstone interbedded with lesser amounts of sandy, ashy, bentonitic clay. In general, the base of the Oakville marks the base of the USDW in the vicinity of the proposed UEC Permit Area.

7.2.2 Permit Area Structural Geology

As indicated on previously referenced cross-sections and project maps, two strike oriented (southwest to northeast) normal faults are present in the permit area. It appears that both faults are high angle since no fault cuts were readily discernible within the log data reviewed. However, the faults are mapped based on stratigraphic offset of correlative beds as indicated on the cross-sections. The fault in the northwest portion of the project area is downthrown on the south side of the fault and demonstrates variable offset but generally indicates approximately 100 feet of displacement at the top of the Sand A structural surface (Figure 6.14).

The fault in the southeast portion of the project area is downthrown on the north side of the fault and the two faults generally form a graben structure between them (Figure 6.12). The south fault also shows variable offset but generally about 60 feet of displacement at the top of the Sand A structural surface (Figure 6.14) is indicated.

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8.0 Mine Plan

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8.0 Mine Plan

8.1 Construction

The construction of the satellite facility and the initial production area (PA-1) will proceed simultaneously and be completed at about the same time. Immediately following the issuance of the required authorizations the construction phase will begin. Because a satellite facility is approximately 75% smaller than a full process plant and contains significantly less equipment and chemicals, construction time is estimated to take approximately 6 months.

8.2 Operations and Restoration

The estimated life of the project is between 8 and 9 years, including restoration of the production areas. Table 8.1 Mine Plan summarizes the production, restoration, stability and administrative periods of the project. These periods are provided for all four production areas. The stability period will last for one year (see new rule § 331.107(f), March 12, 2009) to demonstrate that restored values are stable and that the restoration table requirements have been met. The administrative period is the time associated with data submittals by UEC to report restoration progress (semi-annual restoration reports) and stability data as required by § 331.107(d)(f).

Previously referenced Figure 1.3, Project Map, shows the location and acreage of the four production areas. It was noted in earlier chapters of this application that the production zones represent four distinct sand units: Sand A, Sand B, Sand C and Sand D. For mining purposes, the individual production areas are subdivided into smaller units called modules. An individual production area is not mined all at once; instead, it is mined by employing sub units (modules).

As shown in Table 8.1, UEC will be conducting restoration at the same time that recovery operations are occurring. Restoration activities will begin as soon as hydraulic separation can be established between modules that have been depleted of uranium and those that are being produced. Restoration goals can be more quickly achieved by beginning restoration as soon as possible. UEC also believes that the use of RO in the mining process will accelerate the restoration.

Table 8.1 Mine Plan

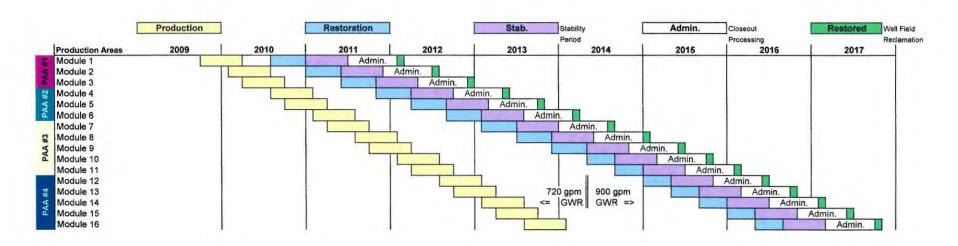


Figure 1.3 Project Map (see Map Appendix)

Given this approach, it is assumed that restoration targets can be met with 6 pore volumes. As shown in Chapter 9.0, the composition of restoration water will be a <u>blend of native groundwater</u> and purified water from the RO units. A blend of RO water (permeate) with native groundwater will be circulated throughout the production zone to remove constituents that are temporarily elevated during the uranium recovery phase. This process will continue until water quality in the production zone within the production area is restored in accordance with the rules provided in § 331.107 Restoration. During the restoration period, water quality improvement is extensively sampled on a routine basis, and progress is documented in semi-annual restoration progress reports that are filed with TCEQ. RO reject water (approximately 25% of the water that passes through the units) will be disposed of in a Class I Non-hazardous Waste Disposal Well(s).

8.3 Well Plugging

An estimate for the total number of wells needed for the project and the associated plugging cost are provided in Section 13.0. Restoration: Well Plugging and Abandonment. With respect to plugging, UEC will follow 30 TAC §331.86 Closure. Briefly, UEC will complete well plugging within 120 days after receiving official acknowledgment from TCEQ that restoration is complete. Plugging will be conducted in accordance with a TCEQ-approved plugging plan.

Plugging of Class III wells is accomplished by removing all equipment from the well and cementing it from total depth to the surface. After the cement has been allowed to dry, the casing is cut off to a level approximately 3 feet below surface. The hole is then backfilled with native soil and graded to approximate the natural contour of the land. Following this stage, TCEQ is notified and will conduct a verification inspection.

9.0 Wellfield and Satellite Plant Details



The affixed seal covers the entire contents of this chapter.

9.0 Wellfield and Satellite Plant Details

9.1 Wellfield and Operations Description

A wellfield typically consists of a series of injection and production wells measuring up to 6 inches in diameter that are connected to the plant site, a satellite facility in this case, via larger diameter trunk lines. Trunk lines typically measure 8 to 10 inches in diameter. Well casing for injection and production wells is made of PVC, whereas trunk lines can be either PVC or high density polyethylene (HDPE). Apart from injectors and producers, production zone and non-production zone monitor wells are also part of the wellfield. As with the production and injection wells, monitor well casing is made of PVC. The previously referenced Project Map (see Figure 1.3 in the Appendix) shows the initial wellfield layout, plant site location, disposal well locations, initial aquifer exemption boundary, permit boundary, initial production area acreages, drainages, faults, roads, and other features.

Trunk lines are used to transport uranium-bearing solution from the wellfields to the plant site. As uranium is mobilized and captured in the ore zone, it is pumped to the surface via production wells and piped to the satellite plant for removal through ion exchange (IX). Once the IX resin is fully loaded, it is transported to a full process facility for final processing into yellowcake product. Uranium-bearing solution is created within the production zone when the native ore is contacted with an oxygen-rich, pH-controlled, bicarbonate solution. After removing the uranium from the solution at the satellite plant using ion exchange resin, the solution is re-fortified by adding sodium bicarbonate (NaHCO₃), adjusting its pH with carbon dioxide (CO₂), and adding oxygen (O₂) prior to re-injecting the solution back into the ore zone. In general, the pH of the solution is normally in the range of 6.8 to 7.4, and the bicarbonate concentration is held in the range of 400 to 1000 ppm.

As the oxygen-fortified water is circulated through the production zone, its oxygen content is consumed in the naturally reduced environment. Therefore its oxidation potential must be enhanced through the addition of oxygen, or hydrogen peroxide in the range of 200 to 400 ppm as O₂. As the solution is recycled, its ion concentration increases over time. Since high ion concentrations are not conducive to efficient mining, they can be lowered using reverse osmosis (RO). Minimizing the concentrations of SO₄, Ca, Fe, Mo, Ra-226, SiO₄, and other elements is desirable. The use of RO in the mining process not only boosts recovery efficiency, it maintains a cleaner production zone. Consequently, minimizing the elevation of these and other constituents, restoration will be made easier. Another desirable aspect to using RO is the using RO conserves water.

The process just described is designed to efficiently mobilize the uranium ore which is normally found in reduced sand. To recover uranium from this environment, the ore must first be converted to a soluble form of uranium (UO2⁺²), and this is accomplished through oxidation. Soluble uranium is then captured as the uranyl cations complex with bicarbonate anions, forming a uranyl dicarbonate complex. The chemical equation below outlines the process of dissolving and complexing the uranium in-situ:

Oxidation:
$$2UO_{2(S)} + O_2 + 2H_2O \longrightarrow 2UO_2^{+2}_{0)} + 4OH^{-1}_{0}$$

 $2H_2O_2 \longrightarrow 2H_2O + O_2$
Complexing: $UO_2^{+2} + 2HCO_3 + 2OH^{-1}_{0} \longrightarrow UO_2 (CO_3)_2^{-2} + 2H_2O$

Both uranium-bearing and refortified solution streams are monitored for total flow volume in and out of the wellfield.

For process control purposes, uranium-bearing solution from each production wellfield is metered and totaled. Average and maximum daily rates and volumes of injection vary according to the formation, plant capacity and wellfield size. Injection pressure does not exceed 0.40 psi per foot of well depth nor does it exceed the internal burst rating of the casing. In addition, records on daily flow rates of individual production wells are maintained.

9.2 Satellite Plant Description

Figure 9.1 (see Appendix C) shows a full layout of the satellite plant. As can be seen from the figure, all processing equipment, byproduct storage, and fluid byproduct storage tanks will be contained on a process pad, which is designed to retain all fluids associated with spills and a 25-year, 24-hour rainfall event. The figure contains all of the assumptions and volume calculations that demonstrate the satellite pad's fluid retention capacity. The satellite will be a pressurized down flow system that will have a maximum flow rate of 5,000 gpm. At start up, however, the production flow rate is expected to be approximately 1,000 to 2,500 gpm. Later, as additional wellfield areas are brought into service, production rates will peak between approximately 4,000 to 5,000 gpm.

As uranium-bearing fluid is received from the wellfields it will pass through a static mixer and candlestick filters containing thermal plastic filtering media (see F-1/F-2) on Figure 9.1) prior to entering the two stage ion exchange (IX) columns. Each IX column will contain approximately 500 ft³ of Dow 21 resin, or its equivalent. The system will consist of three parallel units that contain two, 11 foot diameter pressure vessels connected in series. When fully loaded with uranium, the resin will be hydraulically transferred to a resin trailer and transported to a full process facility where the product will undergo processing into dry yellowcake.

Figure 9.1 (see Appendix C)

At the full process facility, the loaded resin will be stripped of its uranium through a process called elution. To elute or strip the uranium from the resin, a solution containing a high concentration of chloride (CI) ions is passed through the resin. The eluted or stripped resin will then be returned to the satellite and hydraulically loaded back into an IX column to repeat the process.

At the satellite plant, uranium-bearing solution from the wellfield passes through the IX columns and exits as barren solution through a resin trap and an in-line static mixer. As its name suggests, the purpose of the resin trap is to prevent fugitive resin from escaping the satellite plant. Sodium bicarbonate and carbon dioxide are metered into the solution as it passes through the static mixer. The static mixer thoroughly blends the sodium bicarbonate and carbon dioxide with the barren solution, and at this point, the solution is pumped to the wellfield to continue the cycle of uranium recovery. Additional details of the process are provided in the next section.

9.3 Process Description

To aid the reader in following the process description, please refer to Figure 9.2 Goliad Satellite Plant Process Flow Diagram (PFD) in Appendix C. The uranium recovery process from wellfield to resin loading at the satellite plant is depicted in Figure 9.2. In addition to diagramming the process, a flow-through balance is included on the PFD which identifies the chemicals, fluids and fluid byproduct waste associated with the process. Wellfield bleed, groundwater restoration flow rate and disposal well flow rate are also addressed in the figure. Lastly, fluid generated by rainfall and routine maintenance (washing down equipment and process pad) is also included in the flow-through balance.

At the satellite plant, the process begins when uranium is captured on IX polymeric resin that is specifically manufactured for capturing complexes of uranyl carbonate ions. The resin is contained in IX columns IX-1A through IX-3B (see Figure 9.1). As uranium-bearing solution from the wellfields passes downward over the resin in the pressurized IX columns, uranium is removed from the fluid stream. At this point, barren solution flows from the IX vessels through a resin trap. Stripped of its uranium, the barren solution is refortified before being returned to the wellfield. A portion of the solution can be treated with RO before it is re-injected into the wellfields. In this case, the purified stream (permeate) (approximately 75% of the fluid passing through the RO unit), would be co-mingled with the barren solution as it is returned to the wellfield, and the reject stream (approximately 25% of the treated RO fluid) would be pumped to the waste disposal well(s).

As noted earlier, when IX resin becomes maximally loaded with uranyl dicarbonate, the resin is hydraulically transferred to a resin trailer and taken to a full process facility for final processing into dry yellowcake product. A solution, rich in chloride ions (eluant), is used to strip the uranium from the resin. Chloride ions in the eluant solution exchange with uranyl dicarbonate ions on the resin causing the uranium dicarbonate ions to leave the resin. Following elution, the eluted resin is transported back to the satellite plant where it is hydraulically pumped back into an IX column to repeat the process of capturing uranium.

During the processing and restoration phases, fluid not only passes through the filters and IX columns described above, it is also pumped through the two backwash thickeners (T-3 and T-4) shown on Figure 9.2. The backwash thickeners are equipped with filter presses which are used to dewater solids (byproduct material) that are filtered from the fluids.

Figure 9.2 (see Appendix C)

Dewatered solids are placed in drums and temporarily stored on the byproduct storage pad (Area 2) shown on Figure 9.1. With the exception of wellfield bleed and RO reject, all waste fluids are routed to the T-4 backwash thickener. From T-4, fluids pass through the F-4 filter press to the waste disposal well storage tanks (7A through 7D) and into a candlestick filter (F-5). The filtered waste fluid is then disposed of in a Class I Non-hazardous Waste Disposal Well. RO reject and wellfield bleed are pumped directly to the waste disposal well storage tanks and then to the F-5 filter upstream of the disposal well.

During restoration, water from the wellfield is passed through the F-6/F-7 candlestick filters and then through the two stage IX columns (IX-4A/B) at a rate of 600 gpm. The purpose of using IX during restoration is to remove any remaining and recoverable uranium. After passing through the filters and the IX units, restoration water is then pumped to the RO unit. As shown on Figure 9.2, the RO unit will receive 300 gpm and 300 gpm will bypass the RO as it is returned to the wellfield. Of the 300 gpm passing through RO, 225 gpm or 75% will be injected into the wellfield and 75 gpm (RO reject) will go to the disposal well. Restoration will continue until TCEQ concurs that the production zone has been restored.

9.4 Spill Control

The satellite plant will be built on a reinforced concrete curbed pad that is designed to preclude runoff from spills and a 25-year, 24-hour maximum rainfall event. Pad containment can easily accommodate 110% of the total volume of fluid in the largest tank (46,000 gallons) plus the major rain event just noted. Pad volume calculations and assumptions are provided on Figure 9.1.

All fluid contacting the pad will flow via gravity to the sump system. From the sump system, fluid will be pumped to the byproduct fluid holding tanks (T-7A, B, C and D). All four tanks will have flat bottoms and domed tops, and will be constructed of Fiberglass Reinforced Plastic (FRP).

Four 46,038-gallon, above ground tanks (WDW Storage Tanks) are provided for the storage of waste fluids before disposal. The total storage capacity of the WDW Storage Tank system is 184,152 gallons. Each tank has a specified inside diameter of 14 ft and a side wall height of 40 ft. All four tanks will include a flat bottom, dome top, and will be constructed of Fiberglass Reinforced Plastic (FRP). The FRP tanks will be designed and manufactured utilizing advanced, automatic chopped hoop filament winding and end bell machines to meet or exceed ASTM D3299, ASTM D4097, and SPI's Quality Assurance Report, as applicable. Standard Quality Assurance in-process tests will be conducted during the tank manufacturing process and recorded.

Accidental spills arising from pipeline leaks/breaks or leaks from storage tanks can be minimized by following a preventive maintenance program that involves having employees who are trained to observe the state of the equipment on a daily basis.

Maintenance activities will also include routine cleaning (washing down the equipment and satellite pad). Because the construction materials (concrete, PVC, reinforced fiberglass plastic, HDPE and steel) require relatively little maintenance, frequent repair

or replacement is not anticipated. Maintenance typically consists of replacing gaskets,

seals and flanges, and on occasion replacing a section of pipe that may become

damaged.

9.5 Rain and Emergency Operations

As described in previous sections, the process pad will be constructed to have excess capacity for temporarily retaining fluid from spills and from a major rainfall (a 25-year, 24-hour event of 9 inches). The calculations and assumptions for demonstrating this

retention capacity are provided on Figure 9.1.

9.6 Typical By-product Wastewater Composition.

Byproduct waste fluids produced by in situ recovery operations in South Texas will vary from one operation to another, depending on differences in the mining formation and slight differences in processing techniques. For the most part, however, the values

shown in Table 9.1 provide a typical concentration of the waste solution.

Table 9.1 Typical Byproduct Wastewater Composition

Parameter	Concentration*	Parameter	Concentration*
Са	550	Alk	565
Mg	140	pH (S.U.)	7-8
Na	1275	As	0.015
K	35	Cd	<0.0001
CO₃	0	Fe	2.5
HCO ₃	565	Pb	<0.001
SO₄	1650	Mn	<1.0
CI	2385	Hg	<0.0001
NO₃-N	0.1	Мо	15
F	<1.0	Se	0.01
SiO₂	40	U	15
TDS	9400	Ra-226 (pCi/l)	200
EC (µmhos)	12,800		

^{*}Estimated composition is based on typical average values reported at other in-situ process sites.

9.7 Well Completion, Construction and Mechanical Integrity

9.7.1 Construction and Completion

Well construction and completion will conform to Class III well standards described in §331.82 Construction Requirements. Figure 9.3 is a schematic showing a typical injection and recovery well that UEC would use in the wellfields. As the diagram shows, wells vary in diameter from 4 inches to 6 inches. The casing is schedule 40 PVC. After drilling the hole, it is logged using electric and gamma logging tools to determine subsurface geology. The hole is then reamed out to a larger diameter (often 7 7/8 inches) through the target sand to receive the PVC casing. Casing is then run into the hole to total depth. Casing joints are primed, glued and secured with sheet metal screws. Centralizers are placed at 100-foot intervals. Once the casing is in place, it is cemented through weep holes located near the bottom-most casing. All wells are cemented from total depth to the surface with Type I Portland cement. The cement is then allowed to dry for several days before proceeding to mechanical integrity testing (MIT). Once a well passes MIT, additional development follows.

Target sands are selectively drilled out to a larger diameter than the casing. This is known as undereaming. An underreamed interval is typically between 10 and 11 inches in diameter. A screened liner is then placed into the zone that has been underreamed (see Figure 9.3). The next stage involves placing a filter pack or sand pack between the well screen and the formation. This is done to keep an unconsolidated formation from caving in around the screen. Sand packing also improves the performance of a well. Well stimulation (see § 331.122(2)(H) is not needed for production and recovery wells. Stimulation is a procedure typically used in disposal wells. Finally, the well is logged through the screen to verify proper placement in the ore zone. Monitor wells are built in the same manner as the injectors and producers but the main difference is that monitor wells normally do not have permanent pumps installed.

9.7.2 Mechanical Integrity Testing

As noted above, all Class III wells will be tested for mechanical integrity prior to being placed into service. The procedures that will be followed are given in 30 TAC §331.43. Testing involves pressuring a well up to 100 psi and allowing it to stand for 30 minutes before taking another pressure reading. If the pressure remains within 10% of the initial 100 psi, the well passes the test. Single point resistivity logging is also used in performing MIT. In addition, completion reports (cementing records, well diagrams, casing records) and logging are used to evaluate the integrity of a well.

9.7.3 Excursion Prevention and Corrective Action

Protection of underground sources of drinking water is the single most important goal of UEC's proposed operation. To this end, UEC will employ a number of time-proven mechanisms to ensure this valuable resource is fully protected. Following is a summary of how in situ uranium recovery operations operate without impacting good quality groundwater.

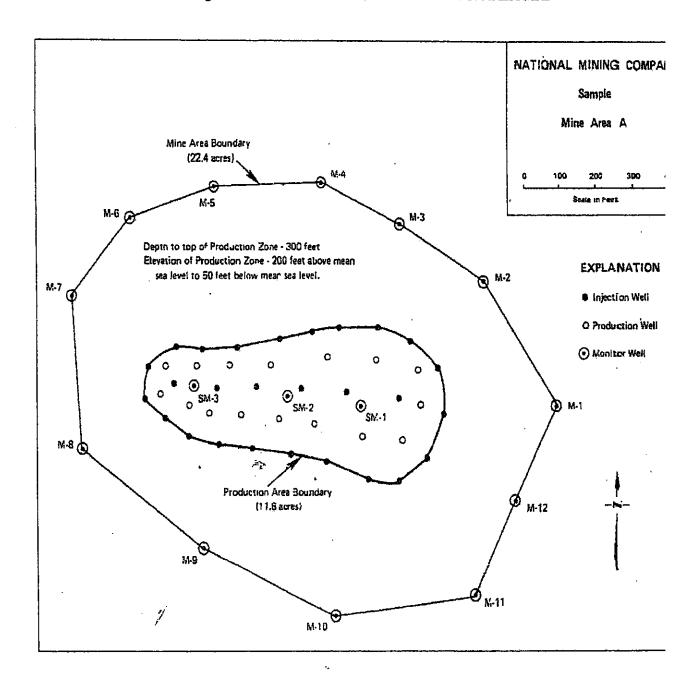
To prevent mining fluids from migrating vertically and horizontally from the production zones, UEC will maintain a negative sink in the production areas to force native groundwater to flow inward toward the areas being produced. This negative pressure gradient system will remain in place throughout operations and until the affected production zones have been fully restored to pre-mining uses. The cone of depression just noted is created by removing more water from the production zone than is being injected. The terms used to describe this safety mechanism are: overproduction and production bleed. To ensure that the effectiveness of this protective measure does not become degraded, bleed will be carefully monitored using in-line totalizers. In addition to this, other important operational procedures will be in place to ensure that fluids from the production zones remain confined. For example, water levels in the monitor wells will be measured on a routine basis. A third element in the excursion detection/prevention plan involves routine water quality monitoring. TCEQ requires routine analysis of water from the production and non-production monitor wells.

Figure 9.4 shows a generalized pattern of monitor wells. Designated monitors wells will be monitored every two weeks for what is known as Control Parameters. Control parameters are simply water quality constituents that would provide the earliest indication of a possible excursion. Because of its rapid movement, chloride provides the earliest warning. Other candidates include electrical conductivity (EC), TDS and sulfate. Sulfate, however, is not as reliable as chloride in that native sulfate levels can cause what is known as false positives. In other words, an increase in sulfate might be proof of an excursion. In the past, uranium was used as one of the control parameters but it is well understood that it is a poor choice in that it does not readily move through groundwater. Since it does not readily move, it cannot serve as an early warning sign. Recognizing this, the U.S. Nuclear Regulatory Commission (NRC) does not allow uranium to be used as a control parameter, and recently TCEQ has adopted this same view.

If a control parameter equals or exceeds the upper control limit set by TCEQ, a verifying analysis must be completed within two days. If the verifying analysis indicates that mining solutions are present in a designated monitor well, an operator shall initiate corrective measures as set out in 30 TAC §331.106 Remedial Action for Excursion. This provision of the rules has three major requirements: 1) notice the TCEQ Regional Office by telephone within 48 hours and file a written letter with the Executive Director, postmarked within 48 hours of the event; 2) prepare a comprehensive groundwater analysis report; and 3) clean up all designated monitor wells, all zones outside the production zone and the production zone outside the mine area.

A fourth safeguard for ensuring maximum groundwater protection is the well design itself. In the previous section of this report, well construction and completion was presented for the Class III wells used in uranium recovery operations. Class III wells are not only built to higher standards than a typical domestic water well, they are tested for mechanical integrity. Mechanical integrity testing is a fifth protective measure. It should also be noted that if equipment is used to enter well for maintenance or other reasons after an MIT was completed, the well must be re-tested for integrity.

Figure 9.4 SAMPLE PROPOSED PRODUCTION AREA MAP



9-16

A fifth protective measure includes the requirement to monitor specified wells within a ¼ mile of the injection site at least every three months.

A sixth protective measure includes continuous monitoring of injection pressure.

Pressure gauges are placed on all injection wells and manifolds, and the maximum injection pressure is conspicuously marked on the gauges. Routine inspection and

reporting by UEC personnel and TCEQ inspectors will ensure a high degree of safety.

A seventh measure of protection involves corrective action that would be taken in the unlikely event of well failure. Because of the high construction standards to which Class III wells are built and because of mechanical integrity testing prior to use, well failure is uncommon. However, in the event of a failure, the well would be removed from service and investigated to discover the reason for failure and to locate the failure point in the casing. Potential leakage into overlying, non-exempt aquifers would be detected by monitor wells. If monitoring results verify an excursion, corrective action will be taken in accordance with § 331.106 Remedial Action for Excursion.

Following documentation of the event and verification by TCEQ, the well would be plugged and abandoned in accordance with an approved plugging plan filed with TCEQ. If needed, a new well would be completed in the production pattern. Completion of a new well would follow the criteria for Class III wells.

10.0 Fluid Handling Capacity vs. Requirements



The affixed seal covers the entire contents of this chapter.

10.0 Fluid Handling Capacity vs. Requirements

Using TCEQ's Technical Guide III, a detailed assessment was completed for the project's fluid handling requirements. A comprehensive summary of fluid sources and their respective volume is provided on Table 10.1. A measure of conservatism, in the form of assumptions and project design, is built into the estimates to allow for intangibles and provide extra assurance that the overall fluid handling capacity will exceed the requirements. A few examples illustrating the conservative nature of the estimates are provided below.

Referring back to Sections 9.4 and 9.5, Spill Control, and Rain and Emergency Operations, respectively, it was demonstrated that the satellite pad can fully accommodate 110% of the fluid volume in the largest vessel. The pad is also designed to contain a maximum 25 year, 24 hour rainfall event of 9 inches (see Figure 9.1 for dimensions and volume calculations).

Historically, ISR process facilities have generally had 6-inch tall fluid retention curbs. UEC's updated pad design will have an outside curb of 12 inches. When just 50% of the holding capacity of the byproduct storage tanks (184,000 gallons) is considered, the retention capacity of the pad is significant in volume. Furthermore, as rain falls on the process pad, it will flow via gravity to a sump collection system where it will be continuously pumped to the disposal well(s). The combined retention capacity of the facility and continuous fluid removal will preclude fluid from escaping the satellite pad. Lastly, a backup emergency generator will be included in the design to assure that equipment can continue to be operational during a power outage. TCEQ has recently issued final draft permits (FDPs) for two Non-hazardous Waste Disposal Wells (WDW-423 and WDW-424). The waste disposal capacity used in Table 10.1 is in accordance with the rate of disposal specified in the draft permits.

Table 10.1					F	luid	Handl	ng Ca	pacity	vs. F	luid D	ispo	sal Re	quireme	ents			
Year 1 Mine Plan		Jan	1	2 Feb	Mar	3	Apr 4	May	5 Ju	6	July	7	8 Aug	Sept 9	Oct 10	Nov 11	Dec 12	TOTAL
Module 1	(kgals)	oun		CD	ividi		(Ap)	muy	- 00	10	July	-	nug	Осрі	108,000	108,000	108,000	324,0
Module 2	(kgals)														13.14.53	13.514.55		-
Module 3	(kgals)																- 1	1.6
Module 4	(kgals)																	
Module 5	(kgals)																- 1	- 8
Module 6	(kgals)																- 01	
Module 7	(kgals)																- 11	-
Module 8	(kgals)																- 1	
Module 9	(kgals)																	
Module 10	(kgals)																- 1	
Module 11	(kgals)																	
Module 12	(kgals)																- 1	110
Module 13	(kgals)																0.3	102
Module 14	(kgals)																- 1	
Module 15	(kgals)																- 1	
Module 16	(kgals)																	1
	(kgals)																	
Total Production Flow	(kgals)														108,000	108,000	108,000	324,0
Total Restoration Flow	(kgals)														100,000	100,000	100,000	52.4,0
RO Feed	(kgals)															-	2.1	
RO Permeate	(kgals)														2	-		
RO Brine	(kgals)															-	2.1	
Restoration Re-cycle	(kgals)																	
Restoration-Wellfield Re-injection	(kgals)																0.1	
Disposal Wells Capacity	(kgals)														8,640	8,640	8,640	25,9
Production Bleed	(kgals)														1,080	1,080	1,080	3,2
Other Effluents	(kgals)														173	173	173	5,2
Restoration RO Brine	(kgals)															- 1/3	- 1/3	
Rain Direct	(kgals)														39	39	39	1
Total	(kgals)														1,292	1,292	1,292	3,8
Total	(Kyais)														1,292	1,292	1,292	3,0
Net Disposal Capacity	(kgals)														7,348	7,348	7,348	22,0
Total Tank Capacity	(kgals)														180	180	180	5
Emergency Capacity	(kgals)														90	90	90	- 1
Emergency Capacity Available	(kgals)														7,438	7,438	7,438	22,
		roductio			Restorat	1		Stabilit	Stability				dmin.	Closeout		Reclamation	27 W Sec. 10	

Table 10.1

Fluid Handling Capacity vs. Fluid Disposal Requirements - (Continued)

Year 2		13	14	15	16	17	18	19	20	21	22	23	24	
Mine Plan		Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	TOTAL
Module 1	(kgals)	108,000	108,000	108,000	77.6				25,920	25,920	25,920	25,920	25,920	453,60
Module 2	(kgals)		108,000	108,000	108,000	108,000	108,000	108,000		-				648,00
Module 3	(kgals)				108,000	108,000	108,000	108,000	108,000	108,000			7. 2.4	648,00
Module 4	(kgals)	l."						712343114	108,000	108,000	108,000	108,000	108,000	540,00
Module 5	(kgals)	2 6							122.60,72	00-1-1-0	108,000	108,000	108,000	324,00
Module 6	(kgals)										.00,000	100,000	100,000	02.10
Module 7	(kgals)													
Module 8	(kgals)													
Module 9	(kgals)													
Module 10	(kgals)	R											4.13	
Module 11	(kgals)													
Module 12	(kgals)													
Module 13	(kgals)													
Module 14	(kgals)	N 1												
Module 15	(kgals)	M											1.0	
Module 16	(kgals))
modele 10	(ngais)													
Total Production Flow	(kgals)	108,000	216,000	216,000	216,000	216,000	216,000	216,000	216,000	216,000	216,000	216,000	216,000	2,484,0
Total Restoration Flow	(kgals)					246757	1200	1 1	25,920	25,920	25,920	25,920	25,920	129,6
RO Feed	(kgals)								12,960	12,960	12,960	12,960	12,960	64,8
RO Permeate	(kgals)								9,720	9,720	9,720	9,720	9,720	48,6
RO Brine	(kgals)	7							3,240	3,240	3,240	3,240	3,240	16,2
Restoration Re-cycle	(kgals)								12,960	12,960	12,960	12,960	12,960	64,8
Restoration-Wellfield Re-injection	(kgals)								22,680	22,680	22,680	22,680	22,680	113,4
		No.							22,000	22,000	22,000	22,000	22,000	113,4
Disposal Wells Capacity	(kgals)	8,640	8,640	8,640	8,640	8,640	8,640	8,640	8,640	8,640	8,640	8,640	8,640	103,6
Production Bleed	(kgals)	1,080	2,160	2,160	2,160	2,160	2,160	2,160	2,160	2,160	2,160	2,160	2,160	24,8
Other Effluents	(kgals)	173	173	173	173	173	173	173	173	173	173	173	173	2,0
Restoration RO Brine	(kgals)	1.2		-		-	2.0	-	3,240	3,240	3,240	3,240	3,240	16,2
Rain Direct	(kgals)	39	39	39	39	39	39	39	39	39	39	39	39	4
Total	(kgals)	1,292	2,372	2,372	2,372	2,372	2,372	2,372	5,612	5,612	5,612	5,612	5,612	43,5
Net Disposal Capacity	(kgals)	7,348	6,268	6,268	6,268	6,268	C 200	0.000	2 020	2 022	0.000	2 205	0.000	66/3
Total Tank Capacity	(kgals)	180	180	180			6,268	6,268	3,028	3,028	3,028	3,028	3,028	60,0
Emergency Capacity		90	90		180	180	180	180	180	180	180	180	180	2,1
Emergency Capacity	(kgals)	90	90	90	90	90	90	90	90	90	90	90	90	1,0
Emergency Capacity Available	(kgals)	7,438	6,358	6,358	6,358	6,358	6,358	6,358	3,118	3,118	3,118	3,118	3,118	61,1
		Production		Restoration		Stability S	Stability		Admin.	Closeout	F	Reclamation V	Vell Field	
						F	eriod		F	rocessing		B	Reclamation	

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Fluid Handling Capacity vs. Fluid Disposal Requirements - (Continued)

Year 3	1	25	26	27	28	29	30	31	32	33	34	35	36	
Mine Plan		Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	TOTAL
Nodule 1	(kgals)	Stab.	Stab.	Stab.	Stab.	Stab.	Stab.	Admin.	Admin.	Admin.	Admin.	Admin.	Admin.	-
Module 2	(kgals)	25,920	25,920	25,920	25,920	25,920	Stab.	Stab.	Stab.	Stab.	Stab.	Stab.	Admin.	129,60
Module 3	(kgals)						25,920	25,920	25,920	25,920	25,920	Stab.	Stab.	129,60
Module 4	(kgals)	108,000							100			25,920	25,920	159,84
Module 5	(kgals)	108,000	108,000	108,000										324,00
Module 6	(kgals)		108,000	108,000	108,000	108,000	108,000	108,000						648,00
Module 7	(kgals)			034,4224	108,000	108,000	108,000	108,000	108,000	108,000				648,0
Module 8	(kgals)				1/42/4-29	10.000	1500,000	13.515.25	108,000	108,000	108,000	108,000	108,000	540,00
Module 9	(kgals)								1,550,500	15015-5	108,000	108,000	108,000	324,00
Module 10	(kgals)										100,000	140,000	,	300.00
Module 11	(kgals)													
Module 12	(kgals)												-)	
Module 13	(kgals)													3
Module 14	(kgals)												1	1
Module 15	(kgals)													
Module 16	(kgals)													1
				414.444		212.11		1.1.212		412.04	20.24	1211.000		
Total Production Flow	(kgals)	216,000	216,000	216,000	216,000	216,000	216,000	216,000	216,000	216,000	216,000	216,000	216,000	2,592,0
Total Restoration Flow	(kgals)	25,920	25,920	25,920	25,920	25,920	25,920	25,920	25,920	25,920	25,920	25,920	25,920	311,0
RO Feed	(kgals)	12,960	12,960	12,960	12,960	12,960	12,960	12,960	12,960	12,960	12,960	12,960	12,960	155,5
RO Permeate	(kgals)	9,720	9,720	9,720	9,720	9,720	9,720	9,720	9,720	9,720	9,720	9,720	9,720	116,6
RO Brine	(kgals)	3,240	3,240	3,240	3,240	3,240	3,240	3,240	3,240	3,240	3,240	3,240	3,240	38,8
Restoration Re-cycle	(kgals)	12,960	12,960	12,960	12,960	12,960	12,960	12,960	12,960	12,960	12,960	12,960	12,960	155,5
Restoration-Wellfield Re-injection	(kgals)	22,680	22,680	22,680	22,680	22,680	22,680	22,680	22,680	22,680	22,680	22,680	22,680	272,10
Disposal Wells Capacity	(kgals)	8,640	8,640	8,640	8,640	8,640	8,640	8,640	8,640	8,640	8,640	8,640	8,640	103,68
Production Bleed	(kgals)	2,160	2,160	2,160	2,160	2,160	2,160	2,160	2,160	2,160	2,160	2,160	2,160	25,9
Other Effluents	(kgals)	173	173	173	173	173	173	173	173	173	173	173	173	2,0
Restoration RO Brine	(kgals)	3,240	3,240	3,240	3,240	3,240	3,240	3,240	3,240	3,240	3,240	3,240	3,240	38,8
Rain Direct	(kgals)	39	39	39	39	39	39	39	39	39	39	39	39	4
Total	(kgals)	5,612	5,612	5,612	5,612	5,612	5,612	5,612	5,612	5,612	5,612	5,612	5,612	67,3
Net Disposal Capacity	(kgals)	3,028	3,028	3,028	3,028	3,028	3,028	3,028	3,028	3,028	3,028	3,028	3,028	36,3
Total Tank Capacity	(kgals)	180	180	180	180	180	180	180	180	180	180	180	180	2,1
Emergency Capacity	(kgals)	90	90	90	90	90	90	90	90	90	90	90	90	1,0
Emergency Capacity Available	(kgals)	3,118	3,118	3,118	3,118	3,118	3,118	3,118	3,118	3,118	3,118	3,118	3,118	37,4
J	1.5	Production		Restoration	-		Stability		-	Closeout		Reclamation		
					,		Period			Processing	110		Reclamation	

Table 10.1

Fluid Handling Capacity vs. Fluid Disposal Requirements - (Continued)

Year 4	Ĭ	37	38	39	40	41	42	43	44	45	46	47	48	
Mine Plan		Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	TOTA
Module 1	(kgals)	Admin.	Reclaim.	200	20.0	2.0	0.0-0-	Livery Lawrence						
Module 2	(kgals)	Admin.	Admin.	Admin.	Admin.	Admin.	Admin.	Reclaim.	2000	Tar dec	- C-4579-	14/0/02	and the same of	
Module 3	(kgals)	Stab.	Stab.	Stab.	Stab.	Admin.	Admin.	Admin.	Admin.	Admin.	Admin.	Admin.	Reclaim.	2000
Module 4	(kgals)	25,920	25,920	25,920	Stab.	Stab.	Stab,	Stab.	Stab.	Stab.	Admin.	Admin.	Admin.	77,7
Module 5	(kgals)				25,920	25,920	25,920	25,920	25,920	Stab.	Stab.	Stab.	Stab.	129,6
Module 6	(kgals)									25,920	25,920	25,920	25,920	103,
Module 7	(kgals)													
Module 8	(kgals)	108,000												108,
Module 9	(kgals)	108,000	108,000	108,000										324,
Module 10	(kgals)		108,000	108,000	108,000	108,000	108,000	108,000						648,
Module 11	(kgals)				108,000	108,000	108,000	108,000	108,000	108,000				648,
Module 12	(kgals)								108,000	108,000	108,000	108,000	108,000	540
Module 13	(kgals)										108,000	108,000	108,000	324
Module 14	(kgals)												1000	
Module 15	(kgals)													
Module 16	(kgals)													
Total Production Flow	(kgals)	216,000	216,000	216,000	216,000	216,000	216,000	216,000	216,000	216,000	216,000	216,000	216,000	2,592
Total Restoration Flow	(kgals)	25,920	25,920	25,920	25,920	25,920	25,920	25,920	25,920	25,920	25,920	25,920	25,920	311
RO Feed	(kgals)	12,960	12,960	12,960	12,960	12,960	12,960	12,960	12,960	12,960	12,960	12,960	12,960	155
RO Permeate	(kgals)	9,720	9,720	9,720	9,720	9,720	9,720	9,720	9,720	9,720	9,720	9,720	9,720	116
RO Brine	(kgals)	3,240	3,240	3,240	3,240	3,240	3,240	3,240	3,240	3,240	3,240	3,240	3,240	38
Restoration Re-cycle	(kgals)	12,960	12,960	12,960	12,960	12,960	12,960	12,960	12,960	12,960	12,960	12,960	12,960	155
Restoration-Wellfield Re-injection	(kgals)	22,680	22,680	22,680	22,680	22,680	22,680	22,680	22,680	22,680	22,680	22,680	22,680	272
Disposal Wells Capacity	(kgals)	8,640	8,640	8,640	8,640	8,640	8,640	8,640	8,640	8,640	8,640	8,640	8,640	103
Production Bleed	(kgals)	2,160	2,160	2,160	2,160	2,160	2,160	2,160	2,160	2,160	2,160	2,160	2,160	25
Other Effluents	(kgals)	173	173	173	173	173	173	173	173	173	173	173	173	2
Restoration RO Brine	(kgals)	3,240	3,240	3,240	3,240	3,240	3,240	3,240	3,240	3,240	3,240	3,240	3,240	38
Rain Direct	(kgals)	39	39	39	39	39	39	39	39	39	39	39	39	
Total	(kgals)	5,612	5,612	5,612	5,612	5,612	5,612	5,612	5,612	5,612	5,612	5,612	5,612	67
Net Disposal Capacity	(kgals)	3,028	3,028	3,028	3,028	3,028	3,028	3,028	3,028	3,028	3,028	3,028	3,028	36
Total Tank Capacity	(kgals)	180	180	180	180	180	180	180	180	180	180	180	180	2
Emergency Capacity	(kgals)	90	90	90	90	90	90	90	90	90	90	90	90	1
Emergency Capacity Available	(kgals)	3,118	3,118	3,118	3,118	3,118	3,118	3,118	3,118	3,118	3,118	3,118	3,118	3
		Production		Restoration		Stability	Stability		Admin.	Closeout		Reclaim.	Well Field	

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Fluid Handling Capacity vs. Fluid Disposal Requirements - (Continued)

49 5	Year 5	51	52	apacity vs	54	55	56	57	58	59	60	
Feb	Mine Plan	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	TOTAL
	dule 1 (kgal:											
	fule 2 (kgal:											-
	dule 3 (kgal:											
Admin.	dule 4 (kgal:	Admin:	Admin.	Reclaim.								-
Stab.	dule 5 (kgal	Admin.	Admin.	Admin.	Admin.	Admin.	Admin.	Admin.	Reclaim			
0 Stab.	dule 6 (kgal:	Stab.	Stab.	Stab.	Stab.	Stab.	Admin.	Admin.	Admin.	Admin.	Admin	25,9
25,920	dule 7 (kgal	25,920	25,920	25,920	25,920	Stab.	Stab.	Stab.	Stab.	Stab.	Stab.	129,6
	dule 8 (kgal:					25,920	25,920	25,920	25,920	25,920	Stab.	129,
	dule 9 (kgal									-	25,920	25,
	dule 10 (kgal											
	dule 11 (kgal											
00	dule 12 (kgal										- 1	108,0
00 108,000	dule 13 (kgal	108,000									- 1	324,
108,000	dule 14 (kgal	108,000	108,000	108,000	108,000	108,000					- 4	648,0
	dule 15 (kgal		108,000	108,000	108,000	108,000	108,000	108,000			1 4	648,0
	dule 16 (kgal						108,000	108,000	108,000	108,000	108,000	540,
0 216,000	al Production Flow (kgal	216,000	216,000	216,000	216,000	216,000	216,000	216,000	108,000	108,000	108,000	2,268,
25,920	al Restoration Flow (kgal	25,920	25,920	25,920	25,920	25,920	25,920	25,920	25,920	25,920	25,920	311,
0 12,960	Feed (kgai	12,960	12,960	12,960	12,960	12,960	12,960	12,960	12,960	12,960	12,960	155.
20 9,720	Permeate (kgal	9,720	9,720	9,720	9,720	9,720	9,720	9,720	9,720	9,720	9,720	116,0
0 3,24	Brine (kgal	3,240	3,240	3,240	3,240	3,240	3,240	3,240	3,240	3,240	3,240	38,8
0 12,96	storation Re-cycle (kga	12,960	12,960	12,960	12,960	12,960	12,960	12,960	12,960	12,960	12,960	155,
30 22,68	storation-Wellfield Re-injection (kgal	22,680	22,680	22,680	22,680	22,680	22,680	22,680	22,680	22,680	22,680	272,
10 8,64	posal Wells Capacity (kga	8,640	8,640	8,640	8,640	8,640	8,640	8,640	8,640	8,640	8,640	103,
30 2,160	duction Bleed (kgal	2,160	2,160	2,160	2,160	2,160	2,160	2,160	1,080	1,080	1,080	22
73 173	er Effluents (kgal	173	173	173	173	173	173	173	173	173	173	2
0 3,24	storation RO Brine (kgal	3,240	3,240	3,240	3,240	3,240	3,240	3,240	3,240	3,240	3,240	38,
39 39	n Direct (kgal	39	39	39	39	39	39	39	39	39	39	
5,61	al (kga	5,612	5,612	5,612	5,612	5,612	5,612	5,612	4,532	4,532	4,532	64
28 3,02	Disposal Capacity (kga	3,028	3,028	3,028	3,028	3,028	3,028	3,028	4,108	4,108	4,108	39
30 18	al Tank Capacity (kgal	180	180	180	180	180	180	180	180	180	180	2
90 9	ergency Capacity (kgal	90	90	90	90	90	90	90	90	90	90	1
18 3,11	ergency Capacity Available (kga	3,118	3,118	3,118	3,118	3,118	3,118	3,118	4,198	4,198	4,198	40
210		Restoration		Stability S	tability		Admin.	Closeout		Reclamation W	ell Field	
	ergency Capacity Available (kga	3,118	3,118 3,118 Restoration		Restoration Stability S		Restoration Stability Stability	Restoration Stability Stability Admin.	Restoration Stability Stability Admin. Closeout	Restoration Stability Stability Admin. Closeout	Restoration Stability Stability Admin. Coseout Reclamation W	Restoration Stability Stability Admin. Cosecut Reclamation Well Field

	Table	10.1
	lable	Year
		Mine F
i	Module 1	
į	Module 2	
	Module 3	
	Module 4	
	Module 5	
	Module 6	
	Module 7	

Fluid Handling Capacity vs. Fluid Disposal Requirements - (Continued)

Year 6	- 1	61	62	63	64	65	66	67	68	69	70	71	72	
Mine Plan		Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	TOTAL
Module 1	(kgals)						-							
Module 2	(kgals)													
Module 3	(kgals)												1	
Module 4	(kgals)													
Module 5	(kgals)												1	
Module 6	(kgals)	Admin.	Admin.	Reclaim.										1
Module 7	(kgals)	Admin.	Admin.	Admin.	Admin.	Admin.	Admin.	Admin.	Reclaim.					
Module 8	(kgals)	Stab.	Stab.	Stab.	Stab.	Stab.	Admin.	Admin.	Admin.	Admin.	Admin.	Admin.	Admin.	1
Module 9	(kgals)	25,920	25,920	25,920	25,920	Stab.	Stab.	Stab.	Stab.	Stab.	Stab.	Admin.	Admin.	103,6
Module 10	(kgals)			0.00		32,400	32,400	32,400	32,400	Stab.	Stab.	Stab.	Stab.	129,6
Module 11	(kgals)					541.15.0		02,100	02,100	32,400	32,400	32,400	32,400	129,6
Module 12	(kgals)									024100	02,100	02,100	CHITOU	120,0
Module 13	(kgals)													- 2
Module 14	(kgals)													A
Module 15	(kgals)												1	
Module 16	(kgals)	108,000												108,0
	(,,ga.,,)	100,000												100,0
Total Production Flow	(kgals)	108,000	4			-			10.7	1.0		2.0		108,0
Total Restoration Flow	(kgals)	25,920	25,920	25,920	25,920	32,400	32,400	32,400	32,400	32,400	32,400	32,400	32,400	362,8
RO Feed	(kgals)	12,960	12,960	12,960	12,960	16,200	16,200	16,200	16,200	16,200	16,200	16,200	16,200	181,4
RO Permeate	(kgals)	9,720	9,720	9,720	9,720	12,150	12,150	12,150	12,150	12,150	12,150	12,150	12,150	136,0
RO Brine	(kgals)	3,240	3,240	3,240	3,240	4,050	4,050	4,050	4,050	4,050	4,050	4,050	4,050	45,3
Restoration Re-cycle	(kgals)	12,960	12,960	12,960	12,960	16,200	16,200	16,200	16,200	16,200	16,200	16,200	16,200	181,4
Restoration-Wellfield Re-injection	(kgals)	22,680	22,680	22,680	22,680	28,350	28,350	28,350	28,350	28,350	28,350	28,350	28,350	317,5
need and the model and injection	(rigulo)	22,000	22,000	22,000	22,000	20,550	20,550	20,330	20,300	20,330	20,330	20,330	20,330	317,0
Disposal Wells Capacity	(kgals)	8,640	8,640	8,640	8,640	8,640	8,640	8,640	8,640	8,640	8,640	8,640	8,640	103,6
Production Bleed	(kgals)	1,080			-		-					100		1,0
Other Effluents	(kgals)	173	173	173	173	173	173	173	173	173	173	173	173	2,0
Restoration RO Brine	(kgals)	3,240	3,240	3,240	3,240	4,050	4,050	4,050	4,050	4,050	4,050	4,050	4,050	45,3
Rain Direct	(kgals)	39	39	39	39	39	39	39	39	39	39	39	39	45,5
Total	(kgals)	4,532	3,452	3,452	3,452	4,262	4,262	4,262	4,262	4,262	4,262	4,262	4,262	48,9
	, and	1,004	0,102	0,102	0,102	1,202	1,202	4,202	4,202	4,202	4,202	4,202	4,202	40,5
Net Disposal Capacity	(kgals)	4,108	5,188	5,188	5,188	4,378	4,378	4,378	4,378	4,378	4,378	4,378	4,378	54,6
Total Tank Capacity	(kgals)	180	180	180	180	180	180	180	180	180	180	180	180	2,1
Emergency Capacity	(kgals)	90	90	90	90	90	90	90	90	90	90	90	90	1,0
Emergency Capacity Available	(kgals)	4,198	5,278	5,278	5,278	4,468	4,468	4,468	4,468	4,468	4,468	4,468	4,468	55,7
	F	Production		Restoration		Stability	Stability		Admin.	Closeout		Reclamation V	/ell Field	
							Period			Processing	_	D	eclamation	

Year 7	- 1	73	74	75	76	77	78	79	80	81	82	
Mine Plan		Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	1
Module 1	(kgals)											
Module 2	(kgals)											
Module 3	(kgals)											
Module 4	(kgals)											
Module 5	(kgals)											
Module 6	(kgals)											
Module 7	(kgals)											
Module 8	(kgals)		5.000	4 m N	17.00		and the second second					
Module 9	(kgals)	Admin.	Admin.	Admin.	Admin.	Admin.	Reclaim.				China	
Module 10	(kgals)	Stab.	Stab.	Admin.	Admin.	Admin.	Admin.	Admin.	Admin.	Admin.	Reclaim.	
Module 11	(kgals)	Stab.	Stab.	Stab.	Stab.	Stab.	Stab.	Admin.	Admin.	Admin.	Admin.	Ac
Module 12	(kgals)	32,400	32,400	32,400	32,400	Stab.	Stab.	Stab.	Stab.	Stab.	Stab.	Ac
Module 13	(kgals)					32,400	32,400	32,400	32,400	Stab.	Stab.	S
Module 14	(kgals)									32,400	32,400	3
Module 15	(kgals)											
Module 16	(kgals)											
Total Production Flow	(kgals)			10 A P	10.00							
Total Restoration Flow	(kgals)	32,400	32,400	32,400	32,400	32,400	32,400	32,400	32,400	32,400	32,400	
RO Feed	(kgals)	16,200	16,200	16,200	16,200	16,200	16,200	16,200	16,200	16,200	16,200	-
RO Permeate	(kgals)	12,150	12,150	12,150	12,150	12,150	12,150	12,150	12,150	12,150	12,150	
RO Brine	(kgals)	4,050	4,050	4,050	4,050	4,050	4,050	4,050	4,050	4,050	4,050	
Restoration Re-cycle	(kgals)	16,200	16,200	16,200	16,200	16,200	16,200	16,200	16,200	16,200	16,200	-
Restoration-Wellfield Re-injection	(kgals)	28,350	28,350	28,350	28,350	28,350	28,350	28,350	28,350	28,350	28,350	

8,640

173

39

4,050

4,262

4,378

4,468

Restoration

180

90

8,640

173

39

4,050

4,262

4,378

4,468

180

90

8,640

173

39

4,050

4,262

4,378

4,468

180

90

8,640

173

39

4,050

4,262

4,378

180

90

8,640

173

39

4,050

4,262

4,378

180

90

8,640

173

39

4,050

4,262

4,378

180

90

Disposal Wells Capacity

Production Bleed

Restoration RO Brine

Net Disposal Capacity

Emergency Capacity Available

Total Tank Capacity

Emergency Capacity

Other Effluents

Rain Direct

Total

(kgals)

8,640

173

39

4,050

4,262

4,378

4,468

Production

180

90

8,640

173

39

4,050

4,262

4,378

4,468

180

90

4,468 4,468 4,468 4,468 4,468 4,468 4,468 Stability Stability Admin. Closeout Reclamation Well Field Period Processing Reclamation

8,640

173

39

4,050

4,262

4,378

180

90

Nov

Admin.

Admin.

Stab.

32,400

32,400

16,200

12,150

4,050

16,200

28,350

8,640

173

39

4,050

4,262

4,378

180

90

8,640

173

39

4,050

4,262

4,378

180

90

TOTAL

-

129,600

129,600

129,600

388,800

194,400

145,800

48,600

194,400

340,200

103,680

2,074

48,600

51,145

52,535

2,160

1,080

53,615

472

Dec

Admin.

Admin.

Stab.

32,400

32,400

16,200

12,150

16,200

28,350

8,640

173

39

4,050

4,262

4,378

180

90

4,050

Table 10.1

Fluid Handling Capacity vs. Fluid Disposal Requirements - (Continued)

Mine Plan		Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	TOTA
Module 1	(kgals)													-
Module 2	(kgals)													
Module 3	(kgals)													
Module 4	(kgals)												- 1	
Module 5	(kgals)												- 1	
Module 6	(kgals)												- 1	
Module 7	(kgals)												0	
Module 8	(kgals)												1	
Module 9	(kgals)												- 1	
Module 10	(kgals)													
Module 11	(kgals)	Admin.	Reclaim.										- 1	
Module 12	(kgals)	Admin.	Admin.	Admin.	Admin.	Admin.	Reclaim.						- 1	
Module 13	(kgals)	Stab.	Stab.	Admin.	Admin.	Admin.	Admin.	Admin.	Admin.	Admin.	Reclaim.			
Vodule 14	(kgals)	Stab.	Stab.	Stab.	Stab.	Stab.	Stab.	Admin.	Admin.	Admin.	Admin.	Admin.	Admin.	
Module 15	(kgals)	32,400	32,400	32,400	32,400	Stab.	Stab.	Stab.	Stab.	Stab.	Stab.	Admin.	Admin.	129.
Module 16	(kgals)	OZ, 100	52,100	02,100	02,100	32,400	32,400	32,400	32,400	Stab.	Stab.	Stab.	Stab.	129,
nodalo 10	(iigalo)					021100	02,100	24,100	02,100	Otabi	-,			355
Total Production Flow	(kgals)	4		140						*				
Total Restoration Flow	(kgals)	32,400	32,400	32,400	32,400	32,400	32,400	32,400	32,400				0.01	259
RO Feed	(kgals)	16,200	16,200	16,200	16,200	16,200	16,200	16,200	16,200				- 1	129,
RO Permeate	(kgals)	12,150	12,150	12,150	12,150	12,150	12,150	12,150	12,150	-	2		641	97,
RO Brine	(kgals)	4,050	4,050	4,050	4,050	4,050	4,050	4,050	4,050		(¥		0.00	32,
Restoration Re-cycle	(kgals)	16,200	16,200	16,200	16,200	16,200	16,200	16,200	16,200	140		-		129
Restoration-Wellfield Re-injection	(kgals)	28,350	28,350	28,350	28,350	28,350	28,350	28,350	28,350			9.1		226,
Disposal Wells Capacity	(kgals)	8,640	8,640	8,640	8,640	8,640	8,640	8,640	8,640	8,640	8,640	8,640	8,640	103,
Production Bleed	(kaala)												7.7	
Other Effluents	(kgals)	173	173	173	173	173	173	173	173				- 1	1
Restoration RO Brine	(kgals)	4,050	4,050	4,050	4,050	4,050	4,050	4,050	4,050		-		2	32
Restoration RO Brine Rain Direct	(kgals)	39	39	39	39	39	39	39	39	39	39	39	39	
Total	(kgals)	4,262	4,262	4,262	4,262	4,262	4,262	4,262	4,262	39	39	39	39	34
Total	(kgals)	4,202	4,202	4,202	4,202	4,202	4,202	4,202	4,202	35	35	33	35	34
Net Disposal Capacity	(kgals)	4,378	4,378	4,378	4,378	4,378	4,378	4,378	4,378	8,601	8,601	8,601	8,601	69
Total Tank Capacity	(kgals)	180	180	180	180	180	180	180	180	180	180	180	180	2
Emergency Capacity	(kgals)	90	90	90	90	90	90	90	90	90	90	90	90	1
Emergency Capacity Available	(kgals)	4,468	4,468	4,468	4,468	4,468	4,468	4,468	4,468	8,691	8,691	8,691	8,691	70
		Production		Restoration		Stability	Stability		Admin.	Closeout		Reclamation	Well Field	

Tab	le	11	0.	1
1 000		1070	٠.	•

Fluid Handling Capacity vs. Fluid Disposal Requirements - (Continued)

Mine Plan Module 1 Module 2 Module 3 Module 4 Module 5 Module 6 Module 7 Module 8 Module 9 Module 10 Module 11 Module 12 Module 12	(kgals) (kgals) (kgals) (kgals) (kgals) (kgals) (kgals) (kgals) (kgals) (kgals) (kgals) (kgals) (kgals)	Jan	Feb	Mar	Apr	May	* June	July	Aug	Sept	Oct	Nov	Dec	TOTAL
Module 2 Module 3 Module 4 Module 5 Module 6 Module 7 Module 8 Module 9 Module 10 Module 11 Module 12	(kgals) (kgals) (kgals) (kgals) (kgals) (kgals) (kgals) (kgals) (kgals) (kgals) (kgals) (kgals) (kgals)													
Module 3 Module 4 Module 5 Module 6 Module 7 Module 8 Module 9 Module 10 Module 11 Module 12	(kgais) (kgais) (kgais) (kgais) (kgais) (kgais) (kgais) (kgais) (kgais) (kgais) (kgais)													
Module 4 Module 5 Module 6 Module 7 Module 8 Module 9 Module 10 Module 11 Module 12	(kgals) (kgals) (kgals) (kgals) (kgals) (kgals) (kgals) (kgals) (kgals) (kgals)													
Module 5 Module 6 Module 7 Module 8 Module 9 Module 10 Module 11 Module 12	(kgals) (kgals) (kgals) (kgals) (kgals) (kgals) (kgals) (kgals) (kgals) (kgals)													
Module 6 Module 7 Module 8 Module 9 Module 10 Module 11 Module 12	(kgals) (kgals) (kgals) (kgals) (kgals) (kgals) (kgals) (kgals) (kgals) (kgals)													
Module 7 Module 8 Module 9 Module 10 Module 11 Module 12	(kgals) (kgals) (kgals) (kgals) (kgals) (kgals) (kgals)													
Module 8 Module 9 Module 10 Module 11 Module 12	(kgals) (kgals) (kgals) (kgals) (kgals) (kgals)													
Module 9 Module 10 Module 11 Module 12	(kgals) (kgals) (kgals) (kgals) (kgals) (kgals)													
Module 10 Module 11 Module 12	(kgals) (kgals) (kgals) (kgals) (kgals)												- 1	
Module 11 Module 12	(kgals) (kgals) (kgals) (kgals)												1	
Module 12	(kgals) (kgals) (kgals)												1	
	(kgals) (kgals)												- 1	
Module 13	(kgals)												- 1	
													- 1	
Module 14	(kgals)	Admin.	Reclaim.										- 1	
Module 15	(kgals)	Admin.	Admin.	Admin.	Admin.	Admin.	Reclaim.						- 2	
Module 16	(kgals)	Stab.	Stab.	Admin.	Admin.	Admin.	Admin.	Admin.	Admin.	Admin.	Reclaim.		- 11	
Total Production Flow	(kgals)								W				2.4	
Total Restoration Flow	(kgals)		5	7	120	1.0	- 4	2.0	55	7			5.1	
RO Feed	(kgals)		0		-				-					
RO Permeate	(kgals)				-			•						
RO Brine	(kgals)		- 3	10.0				-					(3)	
		-	3		-	- 5		-		-				
Restoration Re-cycle	(kgals)	-	•					•		•	•			
Restoration-Wellfield Re-injection	(kgals)								•					
Disposal Wells Capacity	(kgals)	8,640	8,640	8,640	8,640	8,640	8,640	8,640	8,640	8,640	8,640	8,640	8,640	103,6
Production Bleed	(kgals)	100	-		-			1	-					
Other Effluents	(kgals)		•	-	-								- 1	
Restoration RO Brine	(kgals)	-	3.5	-	1.5	12		-		8	-		- 1	
Rain Direct	(kgals)	39	39	39	39	39	39	39	39	39	39		1	
Total	(kgals)	39	39	39	39	39	39	39	39	39	39		- 4	
Net Disposal Capacity	(kgals)	8,601	8,601	8,601	8,601	8,601	8,601	8,601	8,601	8,601	8,601		- 0	86,
Total Tank Capacity	(kgals)	180	180	180	180	180	180	180	180	180	180			1,
Emergency Capacity	(kgals)	90	90	90	90	90	90	90	90	90	90		- 1)	
Emergency Capacity Available	(kgals)	8,691	8,691	8,691	8,691	8,691	8,691	8,691	8,691	8,691	8,691			86,
		Production		Restoration			Stability	-,		Closeout		Reclamation V	Vell Field	

11.0 Hydrologic Testing



The affixed seal covers the entire contents of this section.

11.0 Hydrologic Testing

This section describes the hydrologic testing procedures to be used for Uranium Energy Corp.'s (UEC) production areas. Each production area will be surrounded by a monitoring well ring that will serve to detect possible fluid excursions.

Monitor well design will be in accordance with 30 TAC 331 Subchapter F, Rule § 331.103 Production Area Monitor Wells.

Aquifer pumping tests will be performed to determine the degree of hydrologic connection between aquifers, determine and locate any possible no flow or recharge boundaries, and verify the hydraulic connection between the production zone and the production zone monitoring wells (i.e. verify that the monitoring wells have been completed in the proper strata). The following sub-sections include descriptions of aquifer test preparation, test procedures, equipment, schedule, and procedures for analysis and summary of the test results.

11.1 Hydrologic Test Preparation

The production area geology will be mapped using data from numerous exploration logs and cross-sections. This information, along with data from baseline wells, will be used to guide the installation of the monitoring wells. The geophysical data just noted will also be used to determine the depths and screened intervals of the monitoring wells.

Well logs from the new wells drilled for the test will be compared and integrated into the geologic characterization of the production area. This will ensure that the proper strata are screened. A survey will be performed to determine the elevations of the top of casing and the location of each well used in the test.

11.1.1 Monitoring Wells

As noted above, monitoring wells will be located in accordance with TCEQ regulatory requirements. The observation wells will be distributed as uniformly as possible around the pumped well and at variable distances from the pumped well. This will ensure that possible hydraulic boundary conditions will be detected by the aquifer test. Monitoring wells will be designed to allow downhole access for water level recording devices.

Monitor wells will be completed in the sands overlying the production zone. Water level response will be monitored to determine the sealing nature of intervening low permeability shale deposits.

All wells will remain open to the water bearing zone for the production area during the entire test, and penetrate the entire sand interval so that the flow toward the pumping well is horizontal and drawdown values are not affected by partial penetration. Well numbers and reference points (top of casing) for water level measurements will be recorded and marked on each well casing.

11.1.2 Antecedent Aquifer Conditions

Approximately 48-hours before the pumping test begins, on-site activities that could impact the aquifer water levels such as drilling and pumping will be stopped to allow the aquifer to return to static conditions. Water level measurements will be taken, either with continuous water level recorders or periodically with electric lines or tape, in the pumping well and in all observation wells 24 hours prior to the test to establish the initial static water level.

Water levels will be measured to the nearest 0.01 foot. Barometric pressure will also be recorded prior to the test to establish any background trends.

After the aquifer has stabilized, trends or fluctuations due to changes in barometric pressures or rainfall events will be noted and compared to the water level readings. Outside influences such as pumpage of nearby wells and changes in stream flow, will be

observed, recorded, and if possible, controlled to the extent that they have little or no influence on the groundwater level during the test. If the water levels fluctuate during this time interval, observations will be continued until the trend is clearly established. During the data analysis phase, the water level measurements will be corrected if necessary.

11.2 Hydrologic Test Procedures

Aquifer testing will be performed to provide in-situ information regarding the hydraulic conductivity and the storativity of the production area aquifers. In accordance with TCEQ recommendations, no fewer than one pumping well and three observation wells will be used.

11.2.1 Hydrologic Test Equipment

Well data from the geologic characterization of the production area will be used to establish the necessary requirements for all equipment including depths, and sizing of piping, pumps, and electric lines for water level measurement. The pumping test will require a generator, an electric submersible pump (5 to 7.5 horsepower range), a rig to set the pump, 2-inch PVC line, piping, valves, and inline totalizing flow meters to record the number of gallons pumped. To maintain a constant rate, the discharge pipe will be fitted with a valve and the flow rate will be determined by monitoring the time required to produce a certain volume as recorded by the in-line totalizer.

Water levels and time of measurement will be recorded with continuous water level measuring devices (dataloggers) and downhole pressure transducers. Barometric pressure will also be monitored at the surface with a pressure transducer device. Care must be taken to keep the transducer at constant temperature conditions.

All of the data will be stored digitally to facilitate the data analysis. Drawdown and recovery will be recorded in the pumped well and in the observation wells. Water levels and times may be recorded using an e-lines or tapes in certain wells that are farthest from the pumped well or in overlying aquifers.

11.2.2 Hydrologic Test Schedule

The flow rate will be held constant during the test and the well will be pumped at approximately 75% of its maximum yield to ensure that optimal data quality will be obtained for analysis. Although it is anticipated that the pumping rate will be approximately 30 gallons per minute (gpm), actual rate will be determined in the field. Water level monitoring of the drawdown and recovery will be performed. Rapid changes in the static water level will occur when the pumping test is started and when pumping ends and recovery begins. Therefore, readings will be taken as often as possible at these times in as many observation wells as possible. Automatic data-loggers will typically sample every few seconds during the beginning of a test phase. A typical timetable for e-line or tape measurements is:

Time Since Test Begins	Frequency of Measurement				
(minutes)					
0 to 2	every 30 seconds				
5 to 5	every minute				
5 to 10	every 2 minutes				
10 to 30	every 5 minutes				
30 to 60	every 10 minutes				
60 to 120	every 20 minutes				
120 to end of test	every hour				

The well will be pumped at a constant discharge rate until radial flow is achieved and the drawdown stabilizes at the observation wells. The anticipated pumping time will be 1440 minutes, or 24 hours, at a constant discharge rate. Recovery data will be collected for 24 hours following the test or until water levels have recovered to within 90% of the pre-testing level.

It will be important to determine if no flow or recharge boundaries are encountered during the test.

Data obtained during the test will be monitored and plotted in the field to determine if any such trends occur that may require changes in the test schedule. If a pump fails, the water level recovery will be monitored.

11.2.3 Procedures for Analysis and Summary of the Test Results

Data collected will be analyzed using established and accepted hydrogeologic methods to determine transmissivity, storativity, and permeability of the production zone aquifer. Commercial software will be used to efficiently analyze the large number of individual drawdown and recovery responses from the test.

11.3 Barometric Pressure Corrections

Prior to the data analysis, barometric pressure corrections will be made to the data, if necessary, using the trend data obtained during the pretest monitoring phase. Pressure changes due to atmospheric fluctuations, ΔP_{atm} , increase or decrease the measured drawdown. For example, if the barometric pressure increases, the recorded drawdown will be greater than the actual drawdown. This means that the amount of drawdown, Δh , attributed to an increase in atmospheric pressure, ΔP_{atm} , must be subtracted to obtain the actual drawdown.

In a confined aquifer, the elasticity of the aquifer materials must be considered. Some of the atmospheric pressure increase results in an increase in the effective stress in the aquifer. Therefore, the barometric efficiency (BE) must be determined as follows Todd (1980):

$$BE = (\Delta h \times \rho g_{water}) / \Delta P_{atm}$$

Where the term BE is the barometric efficiency and pg_{water} is the specific weight of water. The corrected drawdown for rising barometric pressure is then calculated as:

$$\Delta h_{corrected} = \Delta h_{recorded} - (BE \times \Delta P_{atm}/\rho g_{water})$$

Similarly, corrections would be required for decreases in barometric pressure and also for atmospheric impacts to the recovery data.

11.3.1 Well Test Data Analysis

There are several software packages available for efficient analysis of well test data. These programs can speed up the analysis time using rapid plotting routines and on screen line and curve fitting techniques, but cannot automatically analyze the data with 100% accuracy. Hydrogeologic judgment must be used by the analyst to pick the interpretation and analysis method that best fits the data.

Generally, the corrected drawdown and recovery data are plotted and a determination is made as to the quality of the data. Then the appropriate aquifer model is chosen (e.g. artesian, leaky artesian, unconfined, etc.) and the data are fitted to type curves (Theis, 1935; Hantush, 1960) and/or straight line fits to the late time data (Cooper and Jacob, 1946). Using appropriate techniques, the well test data will be analyzed to determine:

- Hydraulic conductivity, transmissivity, and storage coefficient at each monitoring well;
- Porosity of selected, representative wells determined from core analysis, electric logs, or other methods;
- Degree of hydrologic communication between aquifers;
- Hydrologic connection between the Production Zone and its monitor wells verified;
- Hydrologic boundaries and recharge areas locations (if any);
- The hydraulic gradient for each aquifer.

References

Cooper, H. H. and C. E. Jacob, 1946, A generalized graphical method for evaluating formation constants and summarizing well field history, Trans. American Geophysical Union, v. 27 pp. 526-534.

Hantush, M. S., 1960, Modification of the theory of leaky aquifers, Journal of Geophysical Research, v. 65, pp. 3713-3725.

Theis, C. V., 1935, The relation between the lowering of the potentiometric surface and the rate and duration of discharge of a well using groundwater storage, Trans. American Geophysical Union, 16th Annual Meeting, pp 519-524.

Todd, D. K., 1980, Groundwater Hydrology, second edition, John Wiley and Sons, New York, 535 p.

Chapter 12.0 Restoration Effectiveness and Restoration Demonstration



7-27-2007

The affixed seal covers the entire contents of this chapter.

12.0 Restoration Effectiveness and Restoration Demonstration

The technology for restoring groundwater back to levels consistent with baseline involves using native groundwater sweep and reverse osmosis (R.O). The effectiveness of current-day restoration has been enhanced by many years of experience. Two major improvements include: 1) initiating restoration as soon as possible following uranium recovery in a given production area and 2) using R.O. during the mining process to keep competing ions from becoming too concentrated.

A very important factor in achieving successful restoration is to have a proper baseline. In the early days of the industry not enough attention was given to developing a baseline that was representative of the area to be mined. Instead of establishing an adequate number of baseline wells in the potential mine area (the area that must be restored to pre-mining conditions), wells were placed far outside the mineralized area. As a result, the average, low and high values established for baseline were not representative of the mineralized zone. Because a disproportionate number of baseline wells were placed in good water, this had the obvious affect of mischaracterizing the actual water quality of the mine area -- it erroneously showed that water quality in the mine was of a higher quality. This in turn set up artificially low restoration targets for a number of constituents and made it impossible to achieve the desired goals. Recognizing this flaw, operators are making a much better effort to properly characterize pre-mining groundwater quality in the areas where production will likely occur.

Although UEC believes that modern day restoration has a much higher likelihood of successfully returning the groundwater to a quality consistent with pre-mining conditions, a restoration demonstration will be conducted at the start of operations. The demonstration will be a small-scale pilot operation designed to closely approximate the larger-scale activities. The wells, the injection fluid, the restoration technique and all other factors will be shaped to match the commercial operation. UEC will complete the restoration demonstration within 18 months following the startup of operations. The results of the demonstration will be submitted to TCEQ for review and comment.

Chapter 13.0 Restoration Cost Estimate Well Plugging

The affixed seal covers the entire contents of this chapter.



13.0 Restoration: Well Plugging and Abandonment

The cost estimate given here is preliminary and will of course become more refined when UEC is nearer to completing the first production areas. The total estimated cost was derived by multiplying the total footage for all wells by a cost per foot. As required by TCEQ, the cost estimate assumes that a third party would be contracted for this work.

The cost per foot reflects labor, equipment, per diem, cement and materials. The most current surety posted at TCEQ for this work is approximately \$1.10 per foot. The estimated total footage that UEC expects to have in cased wells is 798,600 feet. It should be noted that this estimate is a little on the high side to allow for contingencies. As noted above, the total footage includes all wells (injection, production and monitor wells).

UEC is planning recovery operations in four distinct sand units; the A, B, C and D Sands. Following is a breakdown of the estimated number of wells that would be completed in the initial production areas.

	Total Depth (Feet)	Estimated Number of Wells	Total Footage (Feet)	
A-Sand:	110	245	26,950	
B-Sand:	190	360	68,400	
C-Sand	245	566	138,670	
D-Sand	355	963	341,865	
				
Total:		2134	575,885	

Multiplying the total footage by a cost factor of \$1.10/foot gives a total estimated cost of \$633,470.00. Prior to drilling any Class III wells after the permit is issued, UEC will post financial surety in a form acceptable to TCEQ. The rules on financial surety are given in 30 TAC §331.144-147.

According to § 27.073 (a-1), A person to whom an in situ uranium mining injection well. monitoring well, or production well permit is issued shall be required by the commission to maintain a performance bond or other form of financial security to ensure that an abandoned well is properly plugged. Detailed requirements concerning financial surety are given in Title 30 of the Texas Administrative Code ("30 TAC") Chapter 331. According to Subchapter A, § 331.15 Financial Assurance Required, injection is prohibited for Class I and Class III wells which lack financial assurance. Chapter 37, Subchapter Q, § 37,7021 of 30 TAC requires an owner or operator subject to this subchapter to establish financial assurance for plugging and abandonment of Class III wells. Chapter 37, Subchapter Q, Financial Assurance for Underground Injection Control Wells establishes the requirements for demonstrating financial assurance for plugging and abandonment (see 30 TAC § 37.7001). Finally, additional financial assurance requirements are detailed in 30 TAC Subchapter I, §§ 331.142, 331.143 and 331.144. These rules require a permittee to: (1) secure and maintain adequate surety for plugging and abandonment as specified in Chapter 37, Subchapter Q; (2) prepare a plugging and abandonment cost estimate reflecting the period in the operation's life when plugging and abandonment would be most expensive; and (3) maintain the latest cost estimate as prepared under § 331.143(a) during the operational life of the project; and (4) certify and obtain certification from an independent licensed professional engineer or licensed professional geoscientist that plugging and abandonment have been accomplished in accordance with an approved plugging and abandonment plan.

Additionally, at least 60 days prior to drilling wells, UEC will post a form of financial assurance listed in 30 TAC § 37.7021. At this time, UEC anticipates that the surety mechanism would be: (1) a fully funded or pay-in trust; (2) a surety bond guaranteeing payment; (3) a surety bond guaranteeing performance; or (4) an irrevocable standby letter of credit.

During operations, UEC will submit plugging and abandonment cost estimates for the anticipated number of wells needed as the project goes forward. The cost estimate will be in current dollars and will include labor, materials, equipment, supplies and per diem.

The estimate will be based on a third party completing the work. Plugging will be in accordance with 30 TAC § 331.46, Closure Standards. The plugging plan in Section 8.3 calls for cementing wells from total depth to the surface. After the cement has dried, the casing will be cut off approximately three feet below the surface. The excavation will then be backfilled with native soil and graded to approximate the natural contour of the land. Prior to beginning plugging and abandonment, UEC will notify TCEQ. After receiving written permission from TCEQ to proceed, UEC will begin plugging. Closure will proceed according to 30 TAC § 331.86. As described in Section 331.86, an operator must complete plugging and abandonment within 120 days after acknowledgement of final restoration. When closure has been completed, UEC will notify TCEQ. TCEQ will inspect the site to certify that closure has been accomplished in accordance with the permit terms.

14.0 Proposed Aquifer Exemption

Prior to the start of operations, an Aquifer Exemption must be issued by the U.S. EPA through TCEQ. The federal criteria for exempted aquifers are given in 40 CFR §146.4, and the corresponding TCEQ criteria can be found in 20 TAC §331.13 Exempted Aquifer.

The extent of the aquifer exemption is shown on all of the cross-sections (see Figures 6.8a through 6.13). As shown, the exempted portion would extend from the base of the D Sand to the top of the A Sand. The ore delineation program that UEC is engaged in clearly demonstrates that commercial-grade uranium deposits exist in all four sand units. As cross-sections (6.8 through 6.13) show, each sand unit is confined on the top and the bottom by substantial aquicludes. With regard to overlying and underlying aquifers, please refer to the cross-sections to see that an overlying aquifer does not exist above the A Sand production zone. The cross-sections also illustrate that within the prospective production areas, overlying non-production zone aquifers, do not exist. The reason for this is that all four sand units contain commercial amounts of uranium. The deepest production zone (D-Sand) has a substantial confining layer between it and deeper aquifers. This confining layer exists throughout the permit area (see cross-sections). At this stage of project development, the lateral extent of the aquifer exemption area would encompass all of the production areas shown on Figure 1.3 Project Map. Because project development is ongoing, additional aquifer exemption areas will be needed in the permit area.

Appendix A

Laboratory Reports on Water Quality

- Water Supply Wells
- UEC's Baseline Wells

'OMPANY: URANIUM ENERGY CORPARATION REPORT DATE: December 5, 2006 Jacob's Well - OLD RIG SUPPLY ADENTIFICATION: 1115 10-25-06 LABORATORY: JORDAN LABORATORIES, INC. MAJOR AND SECONDARY CONSTITUENTS CONDUCTANCE ITEM MG/L EPM %EPM 81 4.04 CALCIUM (CA) 210.08 37.58 17 1.40 MAGNESIUM (MG) 65.24 13.02 SODIUM (NA) 5.22 255.26 48.56 FOTASSIUM(K) 0.09 --- 5:-48..... 0.84 TOTAL CATION 10.75 0.00 CARBONATE (CO3) 0 0.00 0.00 5.34 BICARBONATE (HCO3) 326 232.82 52.25 11 0.23 17.00 2.25 SULFATE (SO4) 165 4.65 352.94 45.50 CHLORIDE (CL) NITRATE (NO3-N) <0.01 TOTAL FLUORIDE (F) 0.44 1139.81 SILICA(SIO2) 28 TOTAL ANION 10.22 --TOTAL ION 752 ACCURACY CHECK RANGE TDS(180 C) 573 ION 1.052 (.96 TO 1.04) TOT ION-0.5 HCO3= 589 (.90 TO 1.10) TDS 0.973 EC EC(25 C) 972 UMHOS 0.921 (.95 TO 1.05)EC(DIL)=105.0 X 10.0 =1050 UMHOS RADIATION-PICOCURIES/LITER ALK. AS CACO3 267 PH 7.52 GRÓSS ALPHA +/-GROSS BETA +/-MINOR AND TRACE CONSTITUENTS RADIUM 226 10 平/一 1 ITEM MG/L ITEM MG/L ITEM MG/L <0.001 0.01 MANGANESE (MN) VANADIUM(V) ARSENIC(AS) <0.0002 BARIUM(BA) MERCURY (HG) ZINC(ZN) 0.0001 CADMIUM (CD) MOLY. (MO) <0.1 BORON(B) CHROM. (CR) NICKEL(NI) AMMONIA-N <0.001 SELENIUM (SE) COPPER(CU) <0.01 SILVER (AG) IRON(FE) 0.001 URANIUM(U) <0.001 LEAD(PB) %CATIONS %ANIONS 80 60 20 Ø 20 40 60 80 40 НСОЗ NOTE: OC Documnetation CA is on File at Jordan Labs in 1504 Corpus Christi, TX CHECKED BY: ict.

RPDEP: 1-23-08

) WATER ANALYSIS REPORT-IN SITU MINING-URANIUM

REPORT DATE:

February 13, 2007

URANIUM ENERGY CORPORATION

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IDENTIFICATION:

1140 01-02-07 LABORATORY: JORDAN LABORATORIES, INC. MAJOR AND SECONDARY CONSTITUENTS ITEM **EPM** MG/L CONDUCTANCE %EPM CALCIUM (CA) 113 5.64 293.28 49.04 MAGNESIUM (MG) 20 1.64 76.42 14.26 SODIUM (NA) 95 4.13 201.96 35.91 POTASSIUM(K) 3.7 0.09 6.48 0.78 TOTAL CATION 11.5 CARBONATE (CO3) 0 0.00 0.00 0.00 5.15 224.54 BICARBONATE (HCO3) 314 46.35 45 0.94 69.47 SULFATE (SO4) 8.46 178 5.02 381.02 45.18 CHLORIDE (CL) NITRATE (NO3-N) 1.4 FLUORIDE (F) 0.65 TOTAL 1253.17 33 SILICA(SIO2) TOTAL ANION 11.11 TOTAL ION 804 ACCURACY CHECK RANGE TDS(180 C) 668 ION 1.035 (.96 TØ 1.04) TOT ION-0.5 HCO3= 647 TDS 1.033 (.90 TO 1.10) (.95 TO 1.05) **1120 UMHOS** EC 0.997 EC(25 C) EC(DIL) = 100.01250 UMHOS X 12.5 =ALK. AS CACO3 257 RADIATION-PICOCURIES/LITER PH 7.37 GROSS ALPHA +/-GROSS BETA +/-MINOR AND TRACE CONSTITUENTS RADIUM 226 +/-0.1 1.0 MG/L ITEM ITEM MG/L MG/L ITEM ARSENIC(AS) 0.005 MANGANESE (MN) 0.03 VANADIUM(V) BARIUM(BA) MERCURY (HG) <0.0002 ZINC(ZN) <0.1 BORON (B) CADMIUM(CD) <0.001 MOLY. (MO) <0.1 AMMONIA-N CHROM. (CR) NICKEL(NI) 0.003 COPPER (CU) SELENIUM (SE) IRON(FE) 0.01 SILVER (AG) LEAD(PB) 0.003 <0.001 URANIUM (U) %CATIONS **%ANIONS** 80 40 20 0 20 40 60 60 ----|----|----|----|----|-|-|-| CA HCO3 NOTE: OC Documnetation is on File at Jordan Labs in Corpus Christi, TX **SO4** MG CHECKED BY: NA+K CLLAB.NO:M45-014

Abrameit Windmill 1318 10-25-06

URANIUM ENERGY CORPARATION

COMPANY:

IDENTIFICATION:

LABORATORY: JORDAN LABORATORIES, INC. MAJOR AND SECONDARY CONSTITUENTS ITEM MG/L EPM CONDUCTANCE %EPM CALCIUM(CA) 88 4.39 228.28 43.94 MAGNESIUM (MG) 16 1.32 61.51 13.21 SODIUM (NA) 97 4.22 206.36 42.24 POTASSIUM(K) 2.5 0.06 4.32 0.60 TOTAL CATION 9.99 0 0.00 CARBONATE (CO3) 0.00 0.00 340 5.57 BICARBONATE (HCO3) 242.85 54.82 SULFATE (SO4) 20 0.42 31.04 4.13 CHLORIDE (CL) 148 4.17 316.50 41.04 NITRATE (NO3-N) <0.01 FLUORIDE (F) 0.57 TOTAL 1090.86 SILICA(SIO2) 28 TOTAL ANION 10.16 TOTAL ION 740 ACCURACY CHECK RANGE 546 TDS(180 C) ION 0.983 (.96 T0 1.04)TOT ION-0.5 HCO3= 570 TDS 0.958 (.90 TO 1.10)EC(25 C) 922 UMHOS EC 0.912 (.95 TO 1.05)EC(DIL) = 99.5X 995 UMHOS 10.0 =ALK. AS CACO3 279 RADIATION-PICOCURIES/LITER PH 7.56 GROSS ALPHA +/-GROSS BETA +/-MINOR AND TRACE CONSTITUENTS RADIUM 226 +/-0.1 1.9 MG/L ITEM MG/L ITEM ITEM MG/L 0.24 ARSENIC (AS) 0.028 MANGANESE (MN) VANADIUM(V) <0.0002 ZINC(ZN) BARIUM(BA) MERCURY (HG) MOLY. (MO) <0.0001 <0.1 BORON(B) CADMIUM(CD) NICKEL(NI) AMMONIA-N < 0.1CHROM. (CR) COPPER (CU) SELENIUM(SE) <0.001 IRON(FE) 0.05 SILVER (AG) LEAD(PB) <0.001 URANIUM(U) 0.004 **%CATIONS %ANIONS** 0 60 20 20 40 60 80 80 40 CAI HCO3 NOTE: QC Documnetation is on File at Jordan Labs in SO4 Corpus Christi, TX MG CHECKED BY: CL NA+K LAB.NO:M44-3306

REPORT DATE:

December 5, 2006

0900 12-14-06

IDENTIFICATION: Joe Jacobs #1

0900 12 LABORATORY: JORDAN LABO	RATORIES, INC.			
MAJOR AND SECONDARY CONS	TITUENTS			
ITEM	MG/L	EPM	CONDUCTANCE	%EPM
CALCIUM(CA)	145	7.24	376.48	42.29
MAGNESIUM (MG)	16	1.32	61.51	7.71
SODIUM(NA)	195	8.48	414.67	49.53
POTASSIUM(K)	3.2	0.08	5.76	0.47
	TOTAL CATION	17.12		
CARRONAME (COS)		0.00	0.00	
CARBONATE (CO3)	0	0.00	0.00	0.00
BICARBONATE (HCO3)	411	6.74	293.86	40.90
SULFATE (SO4)	118	2.46	181.79	14.93
CHLORIDE(CL)	258	7.28	552.55	44.17
NITRATE (NO3-N)	7.4			
FLUORIDE(F)	0.62	TOTAL	1886.63	
SILICA(SIO2)	58			
	TOTAL ANION	16.48		
TOTAL ION		10.40	ACCURACY CHECK	
IOIAL TOR	1212			NGE
TDS(180 C)	1020	ION	1.039 (.96 T	
TOT ION-0.5 HCO3=	1007	TDS	The state of the s	•
			•	0 1.10)
EC(25 C)	1680 UMHOS	EC	1.013 (.95 T	O 1.05)
EC(DIL)=114.4 X 16.7 =				T M D D
ALK. AS CACO3	337		TION-PICOCURIES/L	
PH	7.19		ALPHA 0 +/-	
			BETA 0 +/-	
MINOR AND TRACE CONSTITU	ENTS	RADIUN	4 226 0.6 +/-	0.1
ITEM MG/L	ITEM	MG/L	ITEM	MG/L
ARSENIC(AS) 0.016	MANGANESE (MN)	•	VANADIUM(V)	MO/ H
BARIUM(BA)	MERCURY (HG)	<0.0002	ZINC(ZN)	
CADMIUM(CD) <0.0001	MOLY. (MO)	<0.1	BORON(B)	
CHROM. (CR)	NICKEL(NI)	~0.1	• •	<0.1
COPPER(CU)	SELENIUM(SE)	0.004	APMONIA-N	~0.1
IRON(FE) 0.01	SILVER (AG)	0.004		
LEAD(PB) <0.001	URANIUM(U)	0.002		
HEAD(FB) <0.001	OKANTOM (O)	0.002		
%CATIONS	%ANIONS			
80 60 40 20 0	20 40 60	80		
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NA+K *	*	CL		
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LAB.NO:M44-3757				

COMPANY: URANIUM ENERGY CORPORATION REPORT DATE: January 16, 2007

COMPANY: URANIUM ENERGY CORPORATION REPORT DATE: **JANUARY 26, 2007** IDENTIFICATION: Margaret Braquet #1 12/19/06 € 1320 Hr. LABORATORY: JORDAN LABORATORIES, INC. MAJOR AND SECONDARY CONSTITUENTS ITEM MG/L EPM CONDUCTANCE %EPM CALCIUM(CA) 290 14.47 752.44 62.16 MAGNESIUM (MG) 36 2.96 137.94 12.71 133 SODIUM(NA) 5.79 283.13 24.87 POTASSIUM(K) 2.4 0.06 4.32 0.26 TOTAL CATION 23.28 CARBONATE (CO3) 0 0.00 0.00 0.00 BICARBONATE (HCO3) 336 5.51 240.24 24.60 SULFATE (SO4) 21 0.44 32.52 1.96 CHLORIDE (CL) 583 16.45 1248.56 73.44 NITRATE (NO3-N) 14 TOTAL 2699.13 FLUORIDE (F) 0.34 SILICA(SIO2) 54 TOTAL ANION 22.40 TOTAL ION 1470 ACCURACY CHECK RANGE TDS(180 C) 1370 ION 1.039 (.96 TØ 1.04) 1302 TOT ION-0.5 HCO3= TDS 1.052 (.90 TO 1.10) **2460 UMHOS** EC(25 C) EC 1.045 (.95 TO 1.05) **2820 UMHOS** EC(DIL)=112.8X 25.0 =ALK. AS CACO3 275 RADIATION-PICOCURIES/LITER PH 7.27 GROSS ALPHA +/-GROSS BETA +/-MINOR AND TRACE CONSTITUENTS RADIUM 226 0.6 + / -0.1 ITEM MG/L ITEM MG/L ITEM MG/L ARSENIC (AS) 0.007 MANGANESE (MN) <0.01 VANADIUM(V) <0.0002 BARIUM(BA) MERCURY (HG) ZINC(ZN) <0.1 BORON (B) CADMIUM (CD) <0.0001 MOLY. (MO) CHROM. (CR) NICKEL (NI) AMMONIA-N < 0.10.003 COPPER (CU) SELENIUM (SE) 0.01 SILVER (AG) IRON(FE) 0.003 LEAD(PB) <0.001 URANIUM(U) ***CATIONS *ANIONS** 80 60 40 20 0 20 40 60 HCO₃ NOTE: QC Documnetation CA is on File at Jordan Labs in ЧG SO4 Corpus Christi, TX

CHECKED BY:

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NA+K

12/19/06 @ 1330 Hr.

COMPANY: URANIUM ENERGY CORPORATION

IDENTIFICATION: Margaret Braquet #2

	RATORIES, INC.			
MAJOR AND SECONDARY CONS	PITUENTS			
ITEM	MG/L	EP M	CONDUCTANCE	%EPM
CALCIUM(CA)	102	5.09	264.68	42.77
MAGNESIÙM (MG)	21	1.73	80.62	14.54
SODIUM(NA)	115	5.00	244.50	42.02
POTASSIUM(K)	3.1	0.08	5.76	0.67
	TOTAL CATION	11.9		
CABBONAME (CO2)	0	0.00	0.00	0.00
CARBONATE (CO3)	337	5.52	240.67	
BICARBONATE (HCO3)				48.59
SULFATE (SO4)	58	1.21	89.42	10.65
CHLORIDE(CL)	164	4.63	351.42	40.76
NITRATE (NO3-N)	<0.01		4655 65	
FLUORIDE(F)	0.60	TOTAL	1277.07	
SILICA(SIO2)	40			
	TOTAL ANION	11.36		
TOTAL ION	841		ACCURACY CH	ECK
				RANGE
TDS(180 C)	685	ION	1.048 (.9	6 TØ 1.04)
TOT ION-0.5 HCO3=	672	TDS	1.019 (.9	
EC(25 C)	1140 UMHOS	EC		5 TO 1.05)
EC(DIL)=101.6 X 12.5 =	1270 UMHOS	T.C.	W.JJ# (.3	3 10 1.03,
	276	יי ארואמי	**********************	C /T TTE
ALK. AS CACO3			TION-PICOCURIE	-
РН	7.38			+/-
MINOR AND TRACE CONSTITUE	ZNITC			+/- +/- 1
MINOR AND TRACE CONSTITUT	7K 1 D	KADIO	1 220 29	T/- I
ITEM MG/L	ITEM	MG/L	ITEM	MG/L
ARSENIC(AS) <0.001	MANGANESE (MN)		VANADIUM(V)	, 2
BARIUM(BA)	MERCURY (HG)	<0.0002	ZINC(ZN)	
CADMIUM(CD) <0.0001	MOLY. (MO)	<0.1	BORON(B)	
• • •	•	~0.1	AMMONIA-N	<0.1
CHROM. (CR)	NICKEL(NI)	<0.001	AMMONIATI	<0.1
COPPER(CU) IRON(FE) 0.04	SELENIUM(SE)	<0.001		
IRON(FE) 0.04 LEAD(PB) <0.001	SILVER(AG) URANIUM(U)	0.002		
LEAD(FB) <0.001	OKWITOW(O)	0.002		
%CATIONS	%ANIONS			
80 60 40 20 0	20 40 60	80		
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CA i *		нсоз	NOTE: QC Docu	mnetation
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LAB.NO:M44-3808				

REPORT DATE: JANUARY 26, 2007

URANIUM ENERGY CORPORATION REPORT DATE: COMPANY: January 16, 2007 IDENTIFICATION: Joe Jacobs #2 1330 12-14-06 LABORATORY: JORDAN LABORATORIES, INC. MAJOR AND SECONDARY CONSTITUENTS ITEM MG/L EPM CONDUCTANCE %EPM CALCIUM(CA) 125 6.24 324.48 40.68 MAGNESIUM (MG) 13 1.07 49.86 6.98 SODIUM(NA) 183 7.96 389.24 51.89 POTASSIUM(K) 2.7 0.07 5.04 0.46 TOTAL CATION 15.34 0 0.00 CARBONATE (CO3) 0.00 0.00 BICARBONATE (HCO3) 447 7.33 319.59 50.94 SULFATE (SO4) 78 1.62 119.72 11.26 CHLORIDE (CL) 193 5.44 412.90 37.80 NITRATE (NO3-N) 11 0.97 FLUORIDE (F) TOTAL 1620.83 SILICA(SIO2) 72 TOTAL ANION 14.39 TOTAL ION 1126 ACCURACY CHECK RANGE TDS(180 C) 910 1.066 (.96 TØ 1.04) ION TOT ION-0.5 HCO3= 902 TDS 1.009 (.90 TO 1.10) EC 0.981 EC(25 C) **1420 UMHOS** (.95 TO 1.05)EC(DIL) = 95.2X 16.7 =1590 UMHOS ALK. AS CACO3 RADIATION-PICOCURIES/LITER 366 PH 7.52 GROSS ALPHA 0 0 +/-GROSS BETA +/-0 Ø MINOR AND TRACE CONSTITUENTS RADIUM 226 0.2 0.1 +/-ITEM MG/L ITEM MG/L ITEM MG/L ARSENIC(AS) 0.01 0.016 MANGANESE (MN) VANADIUM(V) BARIUM(BA) MERCURY (HG) <0.0002 ZINC(ZN) <0.0001 CADMIUM(CD) MOLY. (MO) <0.1 BORON (B) CHROM. (CR) NICKEL(NI) AMMONIA-N <0.1 0.003 COPPER(CU) SELENIUM (SE) 0.02 IRON(FE) SILVER (AG) <0.001 0.002 LEAD(PB) URANIUM(U) *CATIONS %ANIONS 80 60 40 20 0 20 40 60 CA HCO3 NOTE: QC Documnetation is on File at Jordan Labs in *4G I SO4 Corpus Christi, TX

CHECKED BY:

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LAB.NO:M44-3758

URANIUM ENERGY CORPORATION COMPANY: REPORT DATE: January 16, 2007 IDENTIFICATION: Margaret Rutherford #1 1000 12-14-06 LABORATORY: JORDAN LABORATORIES, INC. MAJOR AND SECONDARY CONSTITUENTS ITEM MG/L EPM CONDUCTANCE %EPM CALCIUM(CA) 123 6.14 319.28 56.49 MAGNESIUM (MG) 13 1.07 49.86 9.84 SODIUM(NA) 83 3.61 176.53 33.21 POTASSIUM(K) 0.05 1.8 3.60 0.46 TOTAL CATION 10.87 CARBONATE (CO3) 0 0.00 0.00 0.00 7.51 BICARBONATE (HCO3) 458 327.44 68.90 SULFATE (SO4) 26 0.54 39.91 4.95 CHLORIDE (CL) 101 2.85 216.32 26.15 NITRATE (NO3-N) 0.39 FLUORIDE (F) 0.43 TOTAL 1132.93 SILICA(SIO2) 58 TOTAL ANION 10.90 865 ACCURACY CHECK TOTAL ION RANGE TDS(180 C) 620 ION 0.997 (.96 TØ 1.04) (.90 TO 1.10) TDS 0.975 TOT ION-0.5 HCO3= 636 1020 UMHOS EC 0.997 (.95 TO 1.05)EC(25 C) EC(DIL) = 90.41130 UMHOS X 12.5 =RADIATION-PICOCURIES/LITER ALK. AS CACO3 375 PH 7.03 GROSS ALPHA 0 +/-0 GROSS BETA 0 +/-0 MINOR AND TRACE CONSTITUENTS RADIUM 226 0.2 +/-0.1 MG/L MG/L ITEM MG/L ITEM ITEM 0.005 MANGANESE (MN) <0.01 VANADIUM(V) ARSENIC(AS) BARIUM(BA) 0 MERCURY (HG) <0.0002 ZINC(ZN) CADMIUM (CD) <0.0001 MOLY. (MO) <0.1 BORON (B) 0 AMMONIA-N <0.1 CHROM. (CR) NICKEL (NI) <0.001 COPPER (CU) SELENIUM (SE) IRON(FE) 0.01 SILVER (AG) LEAD(PB) <0.001 URANIUM (U) <0.001 **%CATIONS %ANIONS** 20 40 60 80 60 CA I HCO3 NOTE: OC Documnetation is on File at Jordan Labs in **SO4** Corpus Christi, TX `IG

CHECKED BY:

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LAB.NO:M44-3759

URANIUM ENERGY CORPORATION COMPANY: REPORT DATE: January 16, 2007 IDENTIFICATION: Margaret Rutherford #2 1040 12-14-06 LABORATORY: JORDAN LABORATORIES, INC. MAJOR AND SECONDARY CONSTITUENTS ITEM MG/L EPM CONDUCTANCE %EPM CALCIUM(CA) 103 5.14 267.28 54.51 15 MAGNESIUM (MG) 1.23 57.32 13.04 SODIUM(NA) 69 3.00 146.70 31.81 2.2 POTASSIUM(K) 0.06 4.32 0.64 TOTAL CATION 9.43 CARBONATE (CO3) 0 0.00 0.00 0.00 388 BICARBONATE (HCO3) 6.36 277.30 66,81 SULFATE (SO4) 8 0.17 12.56 1.79 CHLORIDE (CL) 106 2.99 226.94 31.41 NITRATE (NO3-N) 0.06 FLUORIDE (F) TOTAL 0.42 992.42 SILICA(SIO2) 45 TOTAL ANION 9.52 737 TOTAL ION ACCURACY CHECK RANGE (.96 TO 1.04) TDS(180 C) 538 ION 0.991 TOT ION-0.5 HCO3= 543 TDS 0.991 (.90 TO 1.10) 910 UMHOS EC(25 C) EC 1.007 (.95 TO 1.05) EC(DIL) = 99.9X 10.0 =999 UMHOS ALK. AS CACO3 318 RADIATION-PICOCURIES/LITER PH 7.23 GROSS ALPHA 0 +/-0 GROSS BETA +/-0 0 MINOR AND TRACE CONSTITUENTS RADIUM 226 0.3 +/-0.1 ITEM MG/L ITEM MG/L ITEM MG/L 0.003 0.24 ARSENIC(AS) MANGANESE (MN) VANADIUM(V) <0.0002 BARIUM(BA) MERCURY (HG) ZINC(ZN) CADMIUM (CD) <0.0001 MOLY. (MO) < 0.1BORON(B) CHROM. (CR) NICKEL (NI) AMMONIA-N <0.1 COPPER(CU) SELENIUM(SE) <0.001 IRON(FE) <0.01 SILVER (AG) LEAD(PB) <0.001 URANIUM(U) <0.001 **%CATIONS** %ANIONS 80 60 40 20 0 20 40 60 80 HCO3 CA NOTE: QC Documnetation is on File at Jordan Labs in ٦ſG SO4 Corpus Christi, TX

CHECKED BY:

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URANIUM ENERGY CORPORATION COMPANY: REPORT DATE: January 16, 2007 IDENTIFICATION: Marlene Wesselman #1 1230 12-14-06 LABORATORY: JORDAN LABORATORIES, INC. MAJOR AND SECONDARY CONSTITUENTS ITEM MG/L EPM CONDUCTANCE %EPM CALCIUM(CA) 100 4.99 259.48 66.89 MAGNESIUM (MG) 9.3 0.76 35.42 10.19 SODIUM(NA) 38 1.65 80.69 22.12 2.2 0.06 POTASSIUM(K) 4.32 0.80 TOTAL CATION 7.46 0.00 CARBONATE (CO3) 0 0.00 0.00 5.42 BICARBONATE (HCO3) 331 236.31 72.75 18 SULFATE (SO4) 0.37 27.34 4.97 CHLORIDE (CL) 59 1.66 125.99 22.28 0.70 NITRATE (NO3-N) 769.55 FLUORIDE (F) 0.23 TOTAL SILICA(SIO2) 39 TOTAL ANION 7.45 TOTAL ION 597 ACCURACY CHECK RANGE (.96 TØ 1.04) 397 1.001 TDS(180 C) ION TOT ION-0.5 HCO3= 432 TDS 0.919 (.90 TO 1.10) EC 1.017 EC(25 C) 711 UMHOS (.95 TO 1.05) EC(DIL) = 94.3X 783 UMHOS ALK. AS CACO3 RADIATION-PICOCURIES/LITER 271 PH 7.20 GROSS ALPHA 0 +/-0 GROSS BETA 0 Ø +/-RADIUM 226 0.3 +/-0.1 MINOR AND TRACE CONSTITUENTS ITEM MG/L MG/L ITEM MG/L ITEM 0.01 VANADIUM(V) ARSENIC (AS) 0.001 MANGANESE (MN) <0.0002 MERCURY (HG) ZINC(ZN) BARIUM(BA) CADMIUM (CD) <0.0001 MOLY. (MO) <0.1 BORON(B) CHROM. (CR) NICKEL (NI) AMMONIA-N < 0.1 <0.001 COPPER (CU) SELENIUM (SE) 0 0.02 SILVER (AG) IRON(FE) <0.001 LEAD(PB) <0.001 URANIUM(U) **%CATIONS** %ANIONS 80 40 20 0 20 40 60 60 HCO3 NOTE: QC Documnetation CA is on File at Jordan Labs in Corpus Christi, TX MG SO4 CHECKED BY: CL NA+K

URANIUM ENERGY CORPORATION COMPANY: REPORT DATE: January 16, 2007 IDENTIFICATION: Craig Duderstaedt #1 1010 12-15-06 JORDAN LABORATORIES, INC. LABORATORY: MAJOR AND SECONDARY CONSTITUENTS ITEM EPM MG/L CONDUCTANCE %EPM CALCIUM(CA) 195 9.73 505.96 63.43 MAGNESIUM (MG) 12 0.99 46.13 6.45 104 SODIUM (NA) 4.52 221.03 29.47 POTASSIUM(K) 3.9 7.20 0.10 0.65 TOTAL CATION 15.34 CARBONATE (CO3) 0 0.00 0.00 0.00 7.10 309.56 BICARBONATE (HCO3) 433 49.27 10.41 SULFATE (SO4) 72 1.50 110.85 206 CHLORIDE (CL) 5.81 440.98 40.32 NITRATE (NO3-N) 21 FLUORIDE(F) 0.27 TOTAL 1641.71 SILICA(SIO2) 37 TOTAL ANION 14.41 1084 TOTAL ION ACCURACY CHECK RANGE (.96 TO 1.04) TDS(180 C) 857 ION 1.065 TOT ION-0.5 HCO3= 0.988 (.90 TO 1.10) 868 TDS EC(25 C) 1560 UMHOS EC 1.084 (.95 TO 1.05) EC(DIL) = 106.616.7 =1780 UMHOS X ALK. AS CACO3 355 RADIATION-PICOCURIES/LITER PH **GROSS ALPHA** 6.99 0 +/-0 GROSS BETA 0 0 +/-MINOR AND TRACE CONSTITUENTS RADIUM 226 0.3 +/-0.1 ITEM MG/L ITEM MG/L ITEM MG/L ARSENIC (AS) 0.002 MANGANESE (MN) <0.01 VANADIUM(V) <0.0002 BARIUM (BA) MERCURY (HG) ZINC(ZN) CADMIUM (CD) <0.0001 MOLY. (MO) <0.1 BORON (B) AMMONIA-N CHROM. (CR) NICKEL (NI) <0.1 0.004 COPPER (CU) SELENIUM (SE) IRON(FE) <0.01 SILVER (AG) LEAD (PB) <0.001 URANIUM(U) 0.002 **%CATIONS** %ANIONS 20 80 60 20 40 60 CA HCO3 NOTE: OC Documnetation is on File at Jordan Labs in SO4 Corpus Christi, TX ЧG CHECKED BY: NA+K CL

URANIUM ENERGY CORPORATION COMPANY: REPORT DATE: January 16, 2007 IDENTIFICATION: Craig Duderstaedt #2 1015 12-15-06 LABORATORY: JORDAN LABORATORIES, INC. MAJOR AND SECONDARY CONSTITUENTS ITEM MG/L EPM CONDUCTANCE %EPM CALCIUM(CA) 135 6.74 350.48 64.62 MAGNESIUM (MG) 8.3 0.68 31.69 6.52 SODIUM (NA) 68 2.96 144.74 28.38 POTASSIUM(K) 2.1 0.05 3.60 0.48 TOTAL CATION 10.43 CARBONATE (CO3) 0 0.00 0.00 0.00 7.03 BICARBONATE (HCO3) 429 306.51 68.45 SULFATE (SO4) 27 0.56 41.38 5.45 95 CHLORIDE (CL) 2.68 203.41 26.10 NITRATE (NO3-N) 11 FLUORIDE (F) 0.26 TOTAL 1081.82 SILICA(SIO2) 37 TOTAL ANION 10.27 TOTAL ION 813 ACCURACY CHECK RANGE TDS(180 C) 630 ION 1.016 $(.96\ T0\ 1.04)$ (.90 TO 1.10) TOT ION-0.5 HCO3= 598 TDS 1.053 EC(25 C) **1040 UMHOS** EC 1.072 (.95 TO 1.05)EC(DIL) = 92.8Х 12.5 =1160 UMHOS ALK. AS CACO3 352 RADIATION-PICOCURIES/LITER PH GROSS ALPHA 0 7.02 +/-0 GROSS BETA 0 +/-0 MINOR AND TRACE CONSTITUENTS RADIUM 226 0.3 +/-0.1 MG/L ITEM ITEM MG/L ITEM MG/L 0.003 <0.01 VANADIUM(V) ARSENIC (AS) MANGANESE (MN) BARIUM (BA) MERCURY (HG) <0.0002 ZINC(ZN) CADMIUM (CD) <0.0001 MOLY. (MO) <0.1 BORON (B) AMMONIA-N <0.1 NICKEL (NI) CHROM. (CR) 0.002 COPPER(CU) SELENIUM (SE) SILVER (AG) IRON(FE) <0.01 LEAD(PB) 0.005 <0.001 URANIUM(U) %CATIONS %ANIONS 0 80 80 60 20 20 40 60 I HCO3 NOTE: OC Documnetation CA is on File at Jordan Labs in ٦٩G **ISO4** Corpus Christi, TX

CHECKED BY:

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LAB.NO:M44-3776

COMPANY: URAN IDENTIFICATION		CORPØRATION Hausman #1 ~15-06	REPORT I	OATE: January	16, 2007
LABORATORY: J	ORDAN LABO	RATORIES, INC.			
MAJOR AND SECO	NDARY CONS	FITUENTS			
ITEM		MG/L	ЕРМ	CONDUCTANCE	%EPM
CALCIUM(CA)		100	4.99	259.48	47.75
MAGNESIUM (MG)		15	1.23	57.32	11.77
SODIUM(NA)		95	4.13	201.96	39.52
POTASSIUM(K)		3.9	0.10	7.20	0.96
		TOTAL CATION	10.45		
CARBONATE (CO3)		0	0.00	0.00	0.00
BICARBONATE (HC	03)	316	5.18	225.85	51.65
SULFATE (SO4)		35	0.73	53.95	7.28
CHLORIDE (CL)		146	4.12	312.71	41.08
NITRATE (NO3-N)		2.1			
FLUORIDE(F)		0.47	TOTAL	1118.46	
SILICA(SIO2)		36			
		TOTAL ANION	10.03		
	TOTAL ION	749		ACCURACY CH	ECK RANGE
TDS(180 C)		600	ION	1.042 (.9	6 TØ 1.04)
TOT ION-0.5 HC	O3=	591	TDS	•	0 TO 1.10)
EC(25 C)		1030 UMHOS	EC	•	5 TO 1.05)
EC(DIL) = 88.8	X 12.5 =	1110 UMHOS		•	•
ALK. AS CACO3		259	RADIA	TION-PICOCURIE	S/LITER
PH		7.27	GROSS	ALPHA 0	+/- 0
					+/- 0
MINOR AND TRACE	E CONSTITUE	ents	RADIU	1 226 0.3	+/- 0.1
ITEM	MG/L	ITEM	MG/L	ITEM	MG/L
ARSENIC(AS)	<0.001	MANGANESE (MN)	<0.01	VANADIUM(V)	
BARIUM(BA)		MERCURY (HG)	<0.0002	ZINC(ZN)	
CADMIUM(CD)	<0.0001	MOLY. (MO)	<0.1	BORON(B)	
CHROM. (CR)		NICKEL(NI)	0.000	AMMONIA-N	<0.1
COPPER(CU)	.0.01	SELENIUM(SE)	0.002		
IRON(FE)	<0.01	SILVER(AG)	0 002		
LEAD(PB)	<0.001	URANIUM(U)	0.002		
	ATIONS	%ANIONS			
80 60 40	20 0	20 40 60	80 ll		
-		*	HCO3	NOTE: QC Docu	mnetation
*			111003	is on F	
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;	* *	•	SO4		Christi, TX
-	•	•		CHECKED B	γ.
*	•	*	CL		• •
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1 1 1	1	, , ,	s I		

COMPANY: URANIUM ENERGY CORPORATION REPORT DATE: January 16, 2007 **IDENTIFICATION:** Ernest Hausman #2 1150 12-15-06 LABORATORY: JORDAN LABORATORIES, INC. MAJOR AND SECONDARY CONSTITUENTS ITEM EPM CONDUCTANCE MG/L %EPM CALCIUM(CA) 125 6.24 324.48 81.14 0.49 MAGNESIUM (MG) 5.9 22.83 6.37 11.83 0.91 44.50 SODIUM(NA) 21 POTASSIUM(K) 1.9 0.05 3.60 0.65 TOTAL CATION 7.69 CARBONATE (CO3) 0.00 0.00 0.00 5.57 BICARBONATE (HCO3) 340 242.85 78.45 14 0.29 21.43 4.08 SULFATE (SO4) 17.46 44 94.12 CHLORIDE (CL) 1.24 NITRATE (NO3-N) 5.4 0.18 TOTAL 753.81 FLUORIDE (F) SILICA(SIO2) 31 TOTAL ANION 7.10 ACCURACY CHECK TOTAL ION 588 RANGE TDS(180 C) 440 ION 1.083 (.96 TO 1.04) TOT ION-0.5 HCO3= 418 TDS 1.052 (.90 TO 1.10) 647 UMHOS EC 0.965 (.95 TO 1.05)EC(25 C) 728 UMHOS EC(DIL) = 102.5X 7.1 =ALK. AS CACO3 279 RADIATION-PICOCURIES/LITER PH 7.18 GROSS ALPHA 0 +/-0 GROSS BETA 0 +/-0 MINOR AND TRACE CONSTITUENTS RADIUM 226 1.1 +/-0.1 MG/L ITEM MG/L ITEM MG/L ITEM ARSENIC (AS) 0.003 MANGANESE (MN) <0.01 VANADIUM(V) <0.0002 ZINC(ZN) BARIUM(BA) MERCURY (HG) CADMIUM (CD) <0.0001 MOLY. (MO) <0.1 BORON (B) AMMONIA-N <0.1 NICKEL(NI) CHROM. (CR) 0.002 COPPER (CU) SELENIUM(SE) SILVER (AG) IRON(FE) 0.01 0.001 LEAD(PB) <0.001 URANIUM(U) **%CATIONS** %ANIONS 60 20 0 20 40 60 80 CA HCO3 NOTE: OC Documnetation is on File at Jordan Labs in SO4 Corpus Christi, TX ٦G CHECKED BY: CL

COMPANY: URANIUM ENERGY CORPORATION REPORT DATE: January 16, 2006 IDENTIFICATION: Gary Halepeska #1 1030 12~18-06 LABORATORY: JORDAN LABORATORIES, INC. MAJOR AND SECONDARY CONSTITUENTS ITEM CONDUCTANCE MG/L EPM %EPM 125 6.24 324.48 36.75 CALCIUM(CA) 1.15 53.59 MAGNESIUM (MG) 14 6.77 219 9.53 466.02 56.12 SODIUM (NA) 2.5 0.06 POTASSIUM(K) 4.32 0.35 TOTAL CATION 16.98 0.00 CARBONATE (CO3) 0 0.00 0.00 7.08 BICARBONATE (HCO3) 432 308.69 43.41 SULFATE (SO4) 99 2.06 152.23 12.63 CHLORIDE (CL) 254 7.17 544.20 43.96 10 NITRATE (NO3-N) FLUORIDE (F) 0.60 TOTAL 1853.53 SILICA(SIO2) 57 TOTAL ANION 16.31 ACCURACY CHECK TOTAL ION 1213 RANGE TDS(180 C) 1030 ION 1.041 (.96 T0 1.04)TOT ION-0.5 HCO3= 997 TDS 1.033 (.90 TO 1.10) **1680 UMHOS** EC 1.015 (.95 TO 1.05)EC(25 C) **1880 UMHOS** EC(DIL) = 112.6X 16.7 =ALK, AS CACO3 354 RADIATION-PICOCURIES/LITER GROSS ALPHA PH 0 7.14 0 +/-GROSS BETA 0 +/-0 MINOR AND TRACE CONSTITUENTS RADIUM 226 0.3 0.1 +/-ITEM MG/L MG/L ITEM ITEM MG/L 0.035 <0.01 ARSENIC (AS) MANGANESE (MN) VANADIUM(V) BARIUM (BA) MERCURY (HG) <0.0002 ZINC(ZN) <0.0001 MOLY. (MO) <0.1 BORON (B) CADMIUM(CD) AMMONIA-N <0.1 CHROM. (CR) NICKEL (NI) <0.001 SELENIUM (SE) COPPER(CU) IRON(FE) <0.01 SILVER (AG) LEAD(PB) <0.001 URANIUM(U) 0.004 **%CATIONS** %ANIONS 40 80 20 0 20 60 60 40 CA HCO3 NOTE: OC Documnetation is on File at Jordan Labs in **SO4** Corpus Christi, TX 1G CHECKED BY:

CL

URANIUM ENERGY CORPORATION COMPANY: REPORT DATE: **JANUARY 26, 2007** IDENTIFICATION: Gary Halepeska #2 12/19/06 @ 0855 Hr. LABORATORY: JORDAN LABORATORIES, INC. MAJOR AND SECONDARY CONSTITUENTS ITEM MG/L EPM CONDUCTANCE &EPM CALCIUM (CA) 75 3.74 194.48 34.89 MAGNESIUM (MG) 16 1.32 61.51 12.31 SODIUM(NA) 128 5.57 272.37 51.96 POTASSIUM(K) 3.7 0.09 6.48 0.84 TOTAL CATION 10.72 0 0.00 CARBONATE (CO3) 0.00 0.00 BICARBONATE (HCO3) 331 5.42 236.31 52.47 SULFATE (SO4) 38 0.79 58.38 7.65 146 4.12 CHLORIDE (CL) 312.71 39.88 NITRATE (NO3-N) 1.4 FLUORIDE (F) 0.62 TOTAL 1142.25 SILICA(SIO2) 32 TOTAL ANION 10.33 772 TOTAL ION ACCURACY CHECK RANGE TDS(180 C) 608 ION 1.038 $(.96 \text{ T}0 \ 1.04)$ TOT ION-0.5 HCO3= 606 TDS 1.003 (.90 TO 1.10) **1050 UMHOS** EC(25 C) EC 0.998 (.95 TO 1.05) EC(DIL) = 91.2X 12.5 =**1140 UMHOS** ALK. AS CACO3 271 RADIATION-PICOCURIES/LITER PH 7.4 **GROSS ALPHA** +/-GROSS BETA +/-MINOR AND TRACE CONSTITUENTS RADIUM 226 1.0 +/-0.1 ITEM MG/L ITEM MG/L ITEM MG/L 0.001 <0.01 ARSENIC (AS) MANGANESE (MN) VANADIUM(V) BARIUM(BA) MERCURY (HG) <0.0002 ZINC(ZN) <0.1 <0.0001 MOLY. (MO) BORON (B) CADMIUM (CD) CHROM. (CR) NICKEL (NI) AMMONIA-N <0.1 0.003 COPPER (CU) SELENIUM (SE) IRON(FE) <0.01 SILVER (AG) <0.001 URANIUM(U) 0.004 LEAD (PB) ***CATIONS %ANIONS** 0 60 40 20 20 40 80 I HCO3 NOTE: QC Documnetation CA is on File at Jordan Labs in 1504 Corpus Christi, TX MG CHECKED BY: CL NA+K

COMPANY: URANIUM ENERGY CORPORATION REPORT DATE: January 16, 2006 IDENTIFICATION: Ted Long #1 1305 12-18-06 LABORATORY: JORDAN LABORATORIES, INC. MAJOR AND SECONDARY CONSTITUENTS ITEM MG/L EPM CONDUCTANCE %EPM CALCIUM(CA) 105 5.24 272.48 47.38 MAGNESIUM (MG) 19 1.56 72.70 14.10 SODIUM(NA) 96 4.18 204.40 37.79 POTASSIUM(K) 3.0 0.08 5.76 0.72 TOTAL CATION 11.06 CARBONATE (CO3) 0.00 0 0.00 0.00 BICARBONATE (HCO3) 318 5.21 227.16 46.35 55 SULFATE (SO4) 1.15 84.99 10.23 CHLORIDE (CL) 173 4.88 370.39 43.42 NITRATE (NO3-N) 0.60 FLUORIDE (F) TOTAL 0.62 1237.87 SILICA(SIO2) 42 TOTAL ANION 11.24 TOTAL ION 812 ACCURACY CHECK RANGE TDS(180 C) 646 0.984 ION (.96 TØ 1.04) TOT ION-0.5 HCO3= 653 TDS 0.989 (.90 TO 1.10) 1140 UMHOS EC(25 C) EC 1.010 (.95 TO 1.05) EC(DIL) = 100.00 X12.5 =1250 UMHOS ALK. AS CACO3 261 RADIATION-PICOCURIES/LITER PH 7.28 GROSS ALPHA 0 +/-0 GROSS BETA 0 +/-0 RADIUM 226 MINOR AND TRACE CONSTITUENTS 1.1 +/-0.1 ITEM MG/L ITEM MG/L ITEM MG/L ARSENIC (AS) 0.002 MANGANESE (MN) <0.01 VANADIUM(V) BARIUM(BA) MERCURY (HG) <0.0002 ZINC(ZN) <0.0001 < 0.1 CADMIUM(CD) MOLY. (MO) BORON(B) CHROM. (CR) NICKEL(NI) AMMONIA-N < 0.1 0.001 COPPER(CU) SELENIUM (SE) IRON(FE) <0.01 SILVER (AG) <0.001 0.003 LEAD(PB) URANIUM (U) **%CATIONS %ANIONS** 80 60 40 20 0 20 40 60 80 NOTE: QC Documnetation CA HCO3 is on File at Jordan Labs in ٧G SO4 Corpus Christi, TX

CHECKED BY:

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LAB.NO:M44-3798

URANIUM ENERGY CORPORATION REPORT DATE: January 16, 2007 COMPANY: IDENTIFICATION: David Cheek #1 1300 12-15-06 LABORATORY: JORDAN LABORATORIES, INC. MAJOR AND SECONDARY CONSTITUENTS ITEM MG/L EPM CONDUCTANCE %EPM CALCIUM(CA) 108 5.39 280.28 48.43 MAGNESIUM (MG) 18 1.48 68.97 13.30 SODIUM (NA) 96 4.18 204.40 37.56 0.08 0.72 POTASSIUM(K) 3.1 5.76 TOTAL CATION 11.13 0.00 CARBONATE (CO3) Ø 0.00 0.00 305 5.00 218.00 45.41 BICARBONATE (HCO3) 0.85 7.72 SULFATE (SO4) 41 62.82 391.64 CHLORIDE (CL) 183 5.16 46.87 1.7 NITRATE (NO3-N) 0.65 TOTAL 1231.87 FLUORIDE (F) SILICA(SIO2) 42 TOTAL ANION 11.01 798 ACCURACY CHECK TOTAL ION RANGE 1.011 (.96 TØ 1.04) TDS(180 C) 648 ION TOT ION-0.5 HCO3= 646 TDS 1.003 (.90 TO 1.10)**1130 UMHOS** EC 1.015 EC(25 C) (.95 TO 1.05) EC(DIL) = 100.012.5 =1250 UMHOS ALK. AS CACO3 250 RADIATION-PICOCURIES/LITER PH 7.15 GROSS ALPHA +/-0 GROSS BETA 0 0 +/-RADIUM 226 0.4 0.1 MINOR AND TRACE CONSTITUENTS +/-MG/L ITEM MG/L ITEM MG/L ITEM 0.002 MANGANESE (MN) <0.01 VANADIUM(V) ARSENIC(AS) <0.0002 ZINC(ZN) BARIUM (BA) MERCURY (HG) <0.1 CADMIUM (CD) 0.0002 MOLY. (MO) BORON(B) CHROM. (CR) NICKEL (NI) AMMONIA-N < 0.1 0.002 COPPER (CU) SELENIUM (SE) SILVER (AG) IRON(FE) <0.01 0.001 LEAD (PB) <0.001 URANIUM(U) **%CATIONS %ANIONS** 80 60 40 20 0 20 40 60 HCO3 NOTE: QC Documnetation CA is on File at Jordan Labs in ٦G **SO4** Corpus Christi, TX

CHECKED BY:

CL

LAB.NO:M44-3773

COMPANY: URANIUM ENERGY CORPORATION REPORT DATE: January 16, 2007 IDENTIFICATION: David Cheek #2 1340 12-15-06 LABORATORY: JORDAN LABORATORIES, INC. MAJOR AND SECONDARY CONSTITUENTS ITEM MG/L EPM CONDUCTANCE %EPM CALCIUM(CA) 108 5.39 280.28 48.65 18 MAGNESIUM (MG) 1.48 68.97 13.36 95 4.13 201.96 37.27 SODIUM (NA) POTASSIUM(K) 3.0 0.08 5.76 0.72 TOTAL CATION 11.08 0.00 CARBONATE (CO3) 0 0.00 0.00 306 5.01 218.44 BICARBONATE (HCO3) 45.71 SULFATE (SO4) 43 0.90 66.51 8.21 CHLORIDE (CL) 179 5.05 383.30 46.08 NITRATE (NO3-N) 1.6 FLUORIDE(F) 0.65 TOTAL 1225,21 41 SILICA(SIO2) TOTAL ANION 10.96 TOTAL ION 795 ACCURACY CHECK RANGE TDS(180 C) 653 ION 1.011 (.96 TØ 1.04) TOT ION-0.5 HCO3= 642 TDS 1.017 (.90 TO 1.10) 1.012 1120 UMHOS EC (.95 TO 1.05)EC(25 C) EC(DIL) = 99.2**1240 UMHOS** X 12.5 =ALK. AS CACO3 RADIATION-PICOCURIES/LITER 251 GROSS ALPHA 0 0 PH 7.18 +/-+/-GROSS BETA 0 0 MINOR AND TRACE CONSTITUENTS RADIUM 226 2.0 0.1 +/-MG/L ITEM MG/L ITEM MG/L ITEM 0.003 <0.01 VANADIUM(V) ARSENIC (AS) MANGANESE (MN) BARIUM(BA) MERCURY (HG) <0.0002 ZINC(ZN) CADMIUM (CD) 0.0001 MOLY. (MO) <0.1 BORON (B) AMMONIA-N < 0.1 CHROM. (CR) NICKEL(NI) COPPER (CU) 0.002 SELENIUM (SE) IRON(FE) <0.01 SILVER (AG) <0.001 URANIUM (U) 0.001 LEAD(PB) *CATIONS %ANIONS 0 60 80 60 40 20 40 CA HCO3 NOTE: OC Documnetation is on File at Jordan Labs in SO4 Corpus Christi, TX 1G CHECKED BY:

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0915 12-15-06

IDENTIFICATION: Michael Walker #1

LABORATORY: JORDAN LABO	RATORIES, INC.			
MAJOR AND SECONDARY CONS	TITUENTS			
ITEM	MG/L	ЕРМ	CONDUCTANCE	%EPM
CALCIUM(CA)	250	12.48	648.96	56.96
MAGNESIUM (MG)	35	2.88	134.21	13.14
SODIUM(NA)	130	5.65	276.29	25.79
POTASSIUM(K)	35	0.90	64.80	4.11
	TOTAL CATION	21.91		
	_			
CARBONATE (CO3)	0	0.00	0.00	0.00
BICARBONATE (HCO3)	271	4.44	193.58	20.22
SULFATE(SO4)	535	11.14	823.25	50. 73
CHLORIDE (CL)	226	6.38	484.24	29.05
NITRATE(NO3-N)	<0.01			
FLUORIDE(F)	0.49	TOTAL	2625.33	
SILICA(SIO2)	40			
	TOTAL ANION	21.96		
TOTAL ION		21.90	ACCURACY CHECK	
TOTAL TON	1522			NGE
MDC (100 C)	1420	ION	0.998 (.96 T	
TDS (180 C)	1420			
TOT ION-0.5 HCO3=	1387	TDS	1.024 (.90 T	
EC(25 C)	1980 UMHOS	EC	0.975 (.95 T	O 1.05)
EC(DIL)=115.3 X 22.2 =				
ALK. AS CACO3	222		TION-PICOCURIES/L	
PH	7.13		ALPHA 0 +/-	
			BETA 0 +/-	
MINOR AND TRACE CONSTITU	ENTS	RADIUM	1 226 1.1 +/-	0.1
ITEM MG/L	ITEM	MG/L	ITEM	MG/L
ARSENIC(AS) 0.001	MANGANESE (MN)		VANADIUM(V)	MG/ L
BARIUM(BA)	MERCURY (HG)		ZINC(ZN)	
CADMIUM(CD) <0.0001	MOLY.(MO)	<0.1	BORON(B)	-0 1
CHROM. (CR)	NICKEL(NI)	.0 001	AMMONIA-N	<0.1
COPPER(CU)	SELENIUM (SE)	<0.001		
$IRON(FE) \qquad 0.02$	SILVER (AG)			
LEAD(PB) <0.001	URANIUM(U)	0.003		
%CATIONS	%ANIONS			
80 60 40 20 0	20 40 60	80		
-		1-1		
CA *	1 1 1 *	, нсоз	NOTE: QC Documne	tation
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LAB.NO:M44-3779				

COMPANY: URANIUM ENERGY CORPORATION REPORT DATE: January 16, 2007

COMPANY: URANIUM ENERGY CORPORATION REPORT DATE: January 29,2007 IDENTIFICATION: Chiquita Tolbert No. 1

1110 12-20-06

LABORATORY: JORDAN LABORATORIES, INC.

MAJOR	AND	SECONDARY	CONSTITUENTS

ITEM	MG/L	ЕРМ	CONDUCTANCE	%EPM
	, _		0011201111102	omr Pr
CALCIUM(CA)	96	4.79	249.08	51.90
MAGNESIUM (MG)	11	0.90	41.94	9.75
SODIUM(NA)	80	3.48	170.17	37.70
POTASSIUM(K)	2.2	0.06	4.32	0.65
202120201(11)		0.00	4.52	0.00
	TOTAL CATION	9.23		
CARBONATE (CO3)	0	0.00	0.00	0.00
BICARBONATE (HCO3)	399	6.54	285.14	72.91
SULFATE (SO4)	30	0.62	45.82	6.91
CHLORIDE(CL)	64	1.81	137.38	20.18
·		1.01	137.30	20.10
NITRATE (NO3-N)	1.3			
<pre>FLUORIDE(F)</pre>	0.97	TOTAL	933.85	
SILICA(SIO2)	61		,	
	TOTAL ANION	8.97		
TOTAL ION	745		ACCURACY CHECK	•
				NGE
TDS(180 C)	550	ION		
			•	
TOT ION-0.5 HCO3=	546	TDS	•	
EC(25 C)	852 UMHOS	EC	1.008 (.95 T	0 1.05)
EC(DIL)=113.4 X 8.3 =	941 UMHOS			
ALK. AS CACO3	327	RADIA	TION-PICOCURIES/L	ITER
PH	7.44		S ALPHA +/-	
* * *	,		BETA +/-	
MINOR AND BOACH CONCERNIL	Taring		•	
MINOR AND TRACE CONSTITUE	INTS	RADIO	M 226 0.1 +/-	0.1
ITEM MG/L	ITEM	MG/L	ITEM	MG/L
ARSENIC(AS) 0.011	MANGANESE (MN)			- ,
BARIUM(BA)	MERCURY (HG)		• •	
			• •	
CADMIUM(CD) <0.0001	MOLY. (MO)	<0.1	BORON(B)	•
CHROM. (CR)	NICKEL(NI)		AMMONIA-N	<0.1
COPPER(CU)	SELENIUM(SE)	0.002		
IRON(FE) < 0.01	SILVER(AG)			
LEAD(PB) <0.001	URANIUM(U)	0.001		
%CATIONS	%ANIONS			
80 60 40 20 0	20 40 60	80		
-		1_1		
		- *	NOTE: Of Designer	ممديت
CA *		+ HCO3	NOTE: QC Documne	
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MG * *		SO4	Corpus Chr	isti, TX
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NA+K *		Cr		
-		1-1		

COMPANY: URAN IDENTIFICATION LABORATORY: J	: Richard 1235 12	Tolbert #3 -21-06	REPORT	DATE: January 2	9, 2007
MAJOR AND SECO	NDARY CONS	PITUENTS			
ITEM		MG/L	EPM	CONDUCTANCE	%EPM
CALCIUM(CA)		215	10.73	557.96	46.59
MAGNESIUM (MG)		37	3.04	141.66	13.20
SODIUM(NA)		210	9.13	446.46	39.64
POTASSIUM(K)		4.9	0.13	9.36	0.56
		TOTAL CATION	23.03		
CARBONATE (CO3)		0	0.00		0.00
BICARBONATE (HC	O3)		5.20	-	22.89
SULFATE (SO4)			2.48	183.27	10.92
CHLORIDE (CL)		533	15.04	1141.54	66.20
NITRATE (NO3-N)		<0.01			
FLUORIDE (F)		0.45	TOTAL	2706.97	
SILICA(SIO2)		37			
		TOTAL ANION	22.72		
	TOTAL ION		22.72	ACCURACY CHEC	K
	TOTAL TON	1470			ANGE
TDS(180 C)		1440	ION		
TOT ION-0.5 HC	^3_	1315	TDS	•	•
	03=			•	
EC(25 C)		2310 UMHOS	EC	0.986 (.95	TO 1.05)
EC(DIL)=106.8	X 25.0 =				
ALK. AS CACO3		260		TION-PICOCURIES/	
PH		7.22			- 0
				-	- 0
MINOR AND TRAC	E CONSTITUI	ENTS	RADIU	M 226 16 +/	- 1
ITEM	MG/L	ITEM	MG/L	ITEM	MG/L
ARSENIC (AS)	<0.001	MANGANESE (MN)	0.03	VANADIUM(V)	•
BARIUM(BA)		MERCURY (HG)	<0.0002	ZINC(ZN)	
CADMIUM(CD)	<0.0001	MOLY.(MO)	<0.1	BORON(B)	
CHROM. (CR)	40.000	NICKEL(NI)	0	AMMONIA-N	<0.1
COPPER (CU)		SELENIUM (SE)	<0.001		
IRON(FE)	0.06	SILVER (AG)	~0.001		
LEAD(PB)	<0.001	URANIUM(U)	<0.001		
TEMD(FD)	<0.001	OKANION(O)	<0.001		
%C	ATIONS	%ANIONS			
80 60 40	20 0	20 40 60	80		
- -			-		
*	•	*	НСОЗ	NOTE: QC Documn	etation
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LAB.NO:M44-3850

0905 12	afford #1	REPORT I	ATE: January 2	9, 2007
MAJOR AND SECONDARY CONS				
ITEM	MG/L	EPM	CONDUCTANCE	%EPM
CALCIUM(CA) MAGNESIUM(MG) SODIUM(NA) POTASSIUM(K)	100 18 87 3.0	4.99 1.48 3.78 0.08	259.48 68.97 184.84 5.76	48.31 14.33 36.59 0.77
	TOTAL CATION	10.33		
CARBONATE (CO3) BICARBONATE (HCO3) SULFATE (SO4) CHLORIDE (CL) NITRATE (NO3-N) FLUORIDE (F) SILICA (SIO2)	0 309 43 162 2.7 0.60 37	0.00 5.06 0.90 4.57 TOTAL	0.00 220.62 66.51 346.86 1153.04	0.00 48.05 8.55 43.40
TOTAL ION	TOTAL ANION 762	10.53	ACCURACY CHEC	
TDS(180 C) TOT ION-0.5 HCO3= EC(25 C) EC(DIL)= 90.4 X 12.5 = ALK. AS CACO3 PH	670 608 1020 UMHOS 1130 UMHOS 253 7.64	ION TDS EC RADIAT GROSS GROSS	0.981 (.96 1.102 (.90 0.980 (.95 TION-PICOCURIES/ ALPHA 0 +/ BETA 0 +/	- 0 - 0
MINOR AND TRACE CONSTITUT	ents	RADIUM	1 226 0.2 +/	- 0.1
ITEM MG/L ARSENIC(AS) 0.003 BARIUM(BA) CADMIUM(CD) <0.0001 CHROM.(CR)	ITEM MANGANESE(MN) MERCURY(HG) MOLY.(MO) NICKEL(NI)	MG/L 0.01 <0.0002 <0.1	ITEM VANADIUM(V) ZINC(ZN) BORON(B) AMMONIA-N	MG/L <0.1
COPPER(CU) IRON(FE) 0.02 LEAD(PB) <0.001	SELENIÚM (ŠE) SILVER (AG) URANIUM (U)	0.002 0.002		
%CATIONS 80 60 40 20 0	*ANIONS 20 40 60 *	80 - HCO3 SO4 CL	NOTE: QC Documn is on Fil Jordan La Corpus Ch CHECKED BY:	e at
LAB.NO:M44-3849				

COMPANY: URAN IDENTIFICATION		ıntzer #1	REPORT	DATE: January 1	6, 2006
LABORATORY: J	ORDAN LABO	RATORIES, INC.			
MAJOR AND SECO	NDARY CONS	FITUENTS			
ITEM		MG/L	EPM	CONDUCTANCE	%EPM
CALCIUM(CA)		103	5.14	267.28	62.84
MAGNESIUM (MG)		11	0.90	41.94	11.00
SODIUM(NA)		48	2.09	102.20	25.55
POTASSIUM(K)		2.1	0.05	3.60	0.61
		TOTAL CATION	8.18		
CARBONATE (CO3)		0	0.00	0.00	0.00
BICARBONATE (HC		389	6.37	277.73	80.63
SULFATE (SO4)	007	19	0.40	29.56	5.06
CHLORIDE(CL)		40	1.13	85.77	14.30
NITRATE(NO3-N)		2.7	1.13	83.77	14.30
FLUORIDE(F)		0.38	TOTAL	808.08	
SILICA(SIO2)		64	IOIAL	00.00	
5111011(5102)		0.			
		TOTAL ANION	7.90		
	TOTAL ION	679		ACCURACY CHEC	
mpg (100 G)		455	TOM		ANGE
TDS(180 C)	0.3	455	ION	1.035 (.96 5	
TOT ION-0.5 HC	U3=	485	TDS	0.939 (.90)	
EC(25 C)	** = 4	647 UMHOS	EC	0.957 (.95	ro 1.05)
EC(DIL)=108.9	X 7.1 =				
ALK. AS CACO3		319		TION-PICOCURIES/	
PH		7.29		ALPHA 0 +/·	
WIND AND MORE	E CONGETHU	23.TM C		•	- 0
MINOR AND TRAC	E CONSTITUE	ST.N.2	RADIU	M 226 0.3 +/·	- 0.1
ITEM	MG/L	ITEM	MG/L	ITEM	MG/L
ARSENIC (AS)	0.007	MANGANESE (MN)	<0.01	VANADIUM(V)	-
BARIUM(BA)		MERCURY (HG)	<0.0002	ZINC(ZN)	
CADMIUM(CD)	<0.0001	MOLY. (MO)	<0.1	BORON(B)	
CHROM. (CR)	XV.0001	NICKEL(NI)		AMMONIA-N	<0.1
COPPER(CU)		SELENIUM (SE)	0.001	11111011111 11	7017
•	0.01	SILVER (AG)	0.001		
IRON(FE)			0.002		
LEAD(PB)	<0.001	URANIUM(U)	0.002		
%C	ATIONS	%ANIONS			
80 60 40	20 0	20 40 60	80		
1-111-			[-[
CAİ ' *' '	• •		* нсоз	NOTE: QC Documne	etation
		<u>-</u>	1	is on File	
i	_	_	i	Jordan Lal	
1G	* *	•	SO4	Corpus Chi	
		•		<u>.</u>	- •
i		•	İ	CHECKED BY:	
NA+K	*	*	CL		
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	. ,	, , ,	- •	- 	
TAB NO.MAA_370	6				

COMPANY: URANIUM ENERGY CORPORATION REPORT DATE: January 29,2007

IDENTIFICATION: Otto Bluntzer No. 2

1410 12-20-06

LABORATORY: JORDAN LABORATORIES, INC.

MAJOR	AND	SECONDARY	CONSTITUENTS
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ITEM		MG/L	EPM	CONDUCTANCE	%EPM
		•			
CALCIUM(CA)		113	5.64	293.28	65.51
MAGNESIUM (MG)		12	0.99	46.13	11.50
SODIUM(NA)		44	1.91	93.40	22.18
POTASSIUM(K)		2.6	0.07	5.04	0.81
		TOTAL CATION	8.61		
CARBONATE (CO3)		0	0.00	0.00	0.00
BICARBONATE (HC	O3)	375	6.15	268.14	76.49
SULFATE (SO4)		15	0.31	22.91	3.86
CHLORIDE(CL)		56	1.58	119.92	19.65
NITRATE (NO3-N)		4.9			
FLUORIDE(F)		0.65	TOTAL	848.82	
SILICA(SIO2)		59		0.0.02	
		TOTAL ANION	8.04		
	TOTAL ION	682		ACCURACY CHEC	
				I	RANGE
TDS(180 C)		520	ION	1.071 (.96	TO 1.04)
TOT ION-0.5 HC	O3=	495	TDS	1.051 (.90	TO 1.10)
EC(25 C)		778 UMHOS	EC		TO 1.05)
EC(DIL)=103.4	X = 8.3 =	858 UMHOS			- · · · ·
ALK. AS CACO3		307	RADTA	rion-picocuries,	/LTTER
PH PH		7.37		-	/
111		7.57		•	/
MINOR AND TRAC	ድ ሮርክርሞፐጥዘር	יוויוי פ		M 226 0.7 +	
MINOR AND IRAC	E CONSILIOE	714 1 2	KADIUI	4 220 W. / T	7- 0.1
ITEM	MG/L	ITEM	MG/L	ITEM	MG/L
ARSENIC (AS)	0.008	MANGANESE (MN)	<0.01	VANADIUM(V)	/
BARIUM(BA)	0.000	MERCURY (HG)	<0.0002	ZINC(ZN)	
CADMIUM(CD)	<0.0001	MOLY. (MO)	<0.1	BORON (B)	
, ,	Z0.0001	•	~0. 1	• •	-0 1
CHROM. (CR)		NICKEL(NI)		AMMONIA-N	<0.1
COPPER (CU)		SELENIUM(SE)	0.002		
IRON(FE)	0.06	SILVER (AG)			
LEAD(PB)	<0.001	URANIUM(U)	0.001		
%C	ATIONS	%ANIONS			
80 60 40	20 0	20 40 60	80		
1-1	1		1_1		
CA *	1 1		* НСОЗ	NOTE: QC Docum	netation
CA			11003	is on Fil	
•		•	ļ	Jordan La	
V C	•	•	1004		
`fG			SO4	Corpus Cr	risti, TX
 	•		ļ	CHECKED BY:	•
NA+K	*	*	CL		•
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COMPANY: URANIUM ENERGY CORPORATION REPORT DATE: January 16, 2007 IDENTIFICATION: Jim Bluntzer #1 1145 12-14-06 LABORATORY: JORDAN LABORATORIES, INC. MAJOR AND SECONDARY CONSTITUENTS ITEM MG/L **EPM** CONDUCTANCE %EPM CALCIUM(CA) 3.99 207.48 80 44.78 MAGNESIUM (MG) 17 1.40 65.24 15.71 SODIUM (NA) 79 3.44 168.22 38.61 POTASSIUM(K) 0.08 3.1 5.76 0.90 TOTAL CATION 8.91 CARBONATE (CO3) 0.00 0.00 0.00 BICARBONATE (HCO3) 334 5.47 238.49 62.87 SULFATE (SO4) 21 0.44 32.52 5.06 CHLORIDE (CL) 99 2.79 211.76 32.07 NITRATE (NO3-N) 0.54 FLUORIDE (F) 0.62 TOTAL 929.47 SILICA(SIO2) 28 TOTAL ANION 8.70 TOTAL ION 662 ACCURACY CHECK RANGE TDS(180 C) 485 ION 1.024 (.96 T0 1.04)0.979 TOT ION-0.5 HCO3= 495 TDS (.90 TO 1.10) EC(25 C) 855 UMHOS EC 1.009 (.95 TO 1:05)10.0 =EC(DIL) = 93.8X **938 UMHOS** RADIATION-PICOCURIES/LITER ALK. AS CACO3 274 PH 7.35 GROSS ALPHA 0 0 +/~ GROSS BETA 0 0 +/-MINOR AND TRACE CONSTITUENTS RADIUM 226 0.6 +/-0.1 ITEM MG/L ITEM MG/L ITEM MG/L 0.001 <0.01 ARSENIC (AS) MANGANESE (MN) VANADIUM(V) BARIUM(BA) MERCURY (HG) <0.0002 ZINC(ZN) <0.0001 CADMIUM (CD) MOLY. (MO) <0.1 BORON (B) CHROM. (CR) NICKEL(NI) AMMONIA-N <0.1 0.001 COPPER (CU) SELENIUM (SE) IRON(FE) <0.01 SILVER (AG) <0.001 0.009 LEAD(PB) URANIUM(U) %CATIONS **%ANIONS** 80 60 40 20 0 20 60 80 CA HCO₃ NOTE: QC Documnetation is on File at Jordan Labs in SO4 ЧG Corpus Christi, TX CHECKED BY: NA+K **ICL**

URANIUM ENERGY CORPORATION COMPANY: REPORT DATE: February 13, 2007 IDENTIFICATION: Bonnie Gisler Schley #1 1250 12-22-06 LABORATORY: JORDAN LABORATORIES, INC. MAJOR AND SECONDARY CONSTITUENTS ITEM MG/L EPM CONDUCTANCE %EPM CALCIUM(CA) 115 5.74 298.48 48.36 MAGNESIUM (MG) 20 1.64 76.42 13.82 SODIUM (NA) 101 4.39 214.67 36.98 POTASSIUM(K) 3.9 0.10 7.20 0.84 TOTAL CATION 11.87 CARBONATE (CO3) 0 0.00 0.00 0.00 BICARBONATE (HCO3) 310 5.08 221.49 44.29 SULFATE (SO4) 82 1.71 126.37 14.91 CHLORIDE (CL) 166 4.68 355.21 40.80 NITRATE (NO3-N) 1.4 FLUORIDE (F) 0.62 TOTAL 1299.84 SILICA(SIO2) 41 TOTAL ANION 11.47 TOTAL ION ACCURACY CHECK 841 RANGE TDS(180 C) 693 ION 1.035 $(.96 \text{ T}0 \ 1.04)$ TOT ION-0.5 HCO3= 686 TDS 1.010 (.90 TO 1.10) EC(25 C) EC 1140 UMHOS 1.000 (.95 TO 1.05) EC(DIL)=104.0X 12.5 =1300 UMHOS ALK. AS CACO3 RADIATION-PICOCURIES/LITER 254 PH 7.42 GROSS ALPHA +/-GROSS BETA +/-MINOR AND TRACE CONSTITUENTS RADIUM 226 1.1 +/-0.1 MG/L MG/L ITEM ITEM ITEM MG/L 0.002 <0.01 VANADIUM(V) ARSENIC(AS) MANGANESE (MN) <0.0002 BARIUM(BA) MERCURY (HG) ZINC(ZN) CADMIUM (CD) <0.0001 MOLY. (MO) <0.1 BORON (B) NICKEL(NI) AMMONIA-N < 0.1 CHROM. (CR) COPPER(CU) SELENIUM(SE) 0.002 0.04 SILVER (AG) IRON(FE) LEAD(PB) <0.001 URANIUM(U) 0.003 *CATIONS %ANIONS 0 60 80 40 20 20 40 60 NOTE: QC Documnetation HCO3 CA is on File at Jordan Labs in SO4 Corpus Christi, TX MG ! CHECKED BY:

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LAB.NO:M44-3856

NA+K l

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URANIUM ENERGY CORPORATION

0900 01-02-07

COMPANY:

IDENTIFICATION:

LABORATORY: JORDAN LABORATORIES, INC. MAJOR AND SECONDARY CONSTITUENTS ITEM MG/L **EPM** CONDUCTANCE %EPM CALCIUM (CA) 78 3.89 202.28 34.58 MAGNESIUM (MG) 17 1.40 65.24 12.44 SODIUM(NA) 5.87 135 287.04 52.18 POTASSIUM(K) 3.7 0.09 6.48 0.80 TOTAL CATION 11.25 CARBONATE (CO3) 0.00 Ø 0.00 0.00 BICARBONATE (HCO3) 333 5.46 238.06 50.28 SULFATE (SO4) 40 0.83 61.34 7.64 CHLORIDE (CL) 162 4.57 346.86 42.08 NITRATE (NO3-N) 1.4 FLUORIDE (F) 0.65 TOTAL 1207.30 SILICA(SIO2) 31 TOTAL ANION 10.86 TOTAL ION 802 ACCURACY CHECK RANGE TDS(180 C) 618 ION 1.036 (.96 T0 1.04)TOT ION-0.5 HCO3= TDS 0.973 635 (.90 TO 1.10) **1100 UMHOS** EC 1.002 (.95 TO 1.05)EC(25 C) EC(DIL) = 96.8**1210 UMHOS** X 12.5 =ALK. AS CACO3 273 RADIATION-PICOCURIES/LITER PH 7.53 GROSS ALPHA +/-GROSS BETA +/-MINOR AND TRACE CONSTITUENTS RADIUM 226 0.4 +/-0.1 ITEM MG/L ITEM MG/L ITEM MG/L ARSENIC (AS) <0.001 MANGANESE (MN) <0.01 VANADIUM(V) <0.0002 BARIUM(BA) MERCURY (HG) ZINC(ZN) <0.1 <0.0001 MOLY. (MO) BORON (B) CADMIUM(CD) NICKEL (NI) AMMONIA-N <0.1 CHROM. (CR) COPPER (CU) SELENIUM (SE) 0.002 0.02 IRON(FE) SILVER (AG) LEAD(PB) <0.001 0.004 URANIUM(U) **%CATIONS** %ANIONS 0 80 60 40 20 20 40 60 CA I HCO3 NOTE: QC Documnetation is on File at Jordan Labs in **SO4** MG Corpus Christi, TX CHECKED BY: CLNA+K LAB.NO:M45-017

REPORT DATE:

February 13, 2007

COMPANY: URANIUM ENERGY CORPORATION REPORT DATE: January 16, 2006 IDENTIFICATION: Tom Anklam #1 1210 12-18-06 JORDAN LABORATORIES, INC. LABORATORY: MAJOR AND SECONDARY CONSTITUENTS ITEM MG/L EPM CONDUCTANCE %EPM CALCIUM (CA) 4.39 88 228.28 43.42 MAGNESIUM (MG) 16 1.32 61.51 13.06 SODIUM (NA) 99 4.31 210.76 42.63 6.48 POTASSIUM(K) 3.5 0.09 0.89 TOTAL CATION 10.11 CARBONATE (CO3) 0 0.00 0.00 0.00 5.38 BICARBONATE (HCO3) 328 234.57 54.51 SULFATE (SO4) 38 0.79 58.38 8.00 131 3.70 280.83 CHLORIDE (CL) 37.49 2.0 NITRATE (NO3-N) FLUORIDE (F) 0.51TOTAL 1080.81 SILICA(SIO2) 31 TOTAL ANION 9.87 737 TOTAL ION ACCURACY CHECK RANGE 600 1.024 (.96 TO 1.04) TDS(180 C) ION TOT ION-0.5 HCO3= 573 TDS 1.047 (.90 TO 1.10) 995 UMHOS 0.971 (.95 TO 1.05)EC(25 C) EC EC(DIL)=105.0X 10.0 =**1050 UMHOS** RADIATION-PICOCURIES/LITER ALK. AS CACO3 269 PH 7.23 GROSS ALPHA 0 +/-0 GROSS BETA +/-0 MINOR AND TRACE CONSTITUENTS RADIUM 226 0.1 0.7 +/-MG/L MG/L ITEM ITEM ITEM MG/L <0.01 VANADIUM(V) ARSENIC (AS) 0.001 MANGANESE (MN) BARIUM(BA) MERCURY (HG) <0.0002 ZINC(ZN) <0.1 BORON (B) CADMIUM (CD) <0.0001 MOLY. (MO) NICKEL(NI) AMMONIA-N < 0.1 CHROM. (CR) COPPER (CU) SELENIUM (SE) 0.002 IRON(FE) <0.01 SILVER (AG) LEAD(PB) <0.001 URANIUM (U) 0.003 **%CATIONS** %ANIONS 60 80 0 20 40 80 60 40 20 NOTE: QC Documnetation CA HCO3 is on File at Jordan Labs in SO4 Corpus Christi, TX `{G CHECKED BY: CLNA+K

URANIUM ENERGY CORPORATION COMPANY: REPORT DATE: February 13, 2007 IDENTIFICATION: Paul Breeden #1 1050 12-22-06 LABORATORY: JORDAN LABORATORIES, INC. MAJOR AND SECONDARY CONSTITUENTS ITEM MG/L **EPM** CONDUCTANCE %EPM CALCIUM(CA) 123 6.14 319.28 65.95 MAGNESIUM (MG) 12 0.99 46.13 10.63 2.13 SODIUM(NA) 49 104.16 22.88 POTASSIUM(K) 2.0 0.05 3.60 0.54 TOTAL CATION 9.31 0.00 CARBONATE (CO3) 0 0.00 0.00 BICARBONATE (HCO3) 293 4.80 209.28 53.16 SULFATE (SO4) 35 0.73 53.95 8.08 CHLORIDE (CL) 124 3.50 265.65 38.76 NITRATE (NO3-N) 1.2 FLUORIDE (F) 0.43 TOTAL 1002.05 SILICA(SIO2) 42 TOTAL ANION 9.03 TOTAL ION 682 ACCURACY CHECK RANGE TDS(180 C) 543 ION 1.031 (.96 T0 1.04)TDS TOT ION-0.5 HCO3= 535 1.015 (.90 TO 1.10)892 UMHOS EC EC(25 C) 0.986 (.95 TO 1.05)EC(DIL) = 98.810.0 =988 UMHOS ALK. AS CACO3 240 RADIATION-PICOCURIES/LITER PH 7.38 GROSS ALPHA +/-GROSS BETA +/-MINOR AND TRACE CONSTITUENTS RADIUM 226 12 +/-1 ITEM MG/L ITEM MG/L ITEM MG/L ARSENIC (AS) 0.009 MANGANESE (MN) 0.01 VANADIUM(V) MERCURY (HG) <0.0002 BARIUM(BA) ZINC(ZN) <0.0001 <0.1 BORON (B) CADMIUM (CD) MOLY. (MO) CHROM. (CR) NICKEL(NI) AMMONIA-N < 0.1COPPER (CU) SELENIUM (SE) 0.012 IRON(FE) 0.02 SILVER (AG) LEAD(PB) <0.001 URANIUM (U) 0.004 **%CATIONS** %ANIONS 60 60 80 20 0 20 40 80 CA HCO3 NOTE: QC Documnetation is on File at Jordan Labs in MG **SO4** Corpus Christi, TX CHECKED BY: NA+K CL

URANIUM ENERGY CORPORATION

Paul Breeden #2 1110 12-22-06

COMPANY:

IDENTIFICATION:

JORDAN LABORATORIES, INC. LABORATORY: MAJOR AND SECONDARY CONSTITUENTS ITEM MG/L EPM CONDUCTANCE %EPM 195 9.73 CALCIUM (CA) 505.96 46.33 MAGNESIUM (MG) 31 2.55 118.83 12.14 SODIUM (NA) 198 8.61 421.03 41.00 POTASSIUM(K) 7.92 4.4 0.11 0.52 TOTAL CATION 21 CARBONATE (CO3) 0 0.00 0.00 0.00 BICARBONATE (HCO3) 320 228.46 5.24 25.95 SULFATE (SO4) 84 129.33 1.75 8.67 468 13.20 1001.88 CHLORIDE (CL) 65.38 <0.01 NITRATE (NO3-N) FLUORIDE(F) 0.47 TOTAL 2413.41 SILICA(SIO2) 38 TOTAL ANION 20.19 TOTAL ION 1339 ACCURACY CHECK RANGE TDS(180 C) 1280 ION 1.040 (.96 TO 1.04) TOT ION-0.5 HCO3= TDS 1179 1.086 (.90 TO 1.10) EC(25 C) 2100 UMHOS EC 0.994 (.95 TO 1.05)X 2400 UMHOS EC(DIL) = 108.122.2 =ALK. AS CACO3 262 RADIATION-PICOCURIES/LITER PH 7.26 GROSS ALPHA +/-GROSS BETA +/-MINOR AND TRACE CONSTITUENTS RADIUM 226 15 +/-1 ITEM MG/L MG/L ITEM ITEM MG/L ARSENIC (AS) <0.001 MANGANESE (MN) 0.03 VANADIUM(V) BARIUM (BA) MERCURY (HG) <0.0002 ZINC(ZN) <0.0001 <0.1 CADMIUM(CD) MOLY. (MO) BORON (B) NICKEL(NI) AMMONIA-N <0.1 CHROM. (CR) <0.001 COPPER(CU) SELENIUM (SE) IRON(FE) 1.1 SILVER(AG) LEAD (PB) < 0.001 URANIUM(U) <0.001 *CATIONS %ANIONS 20 0 80 60 40 20 40 60 80 CA HCO3 NOTE: OC Documnetation is on File at Jordan Labs in **SO4** MG Corpus Christi, TX CHECKED BY: NA+K CL LAB.NO:M44-3854

REPORT DATE:

February 13, 2007

COMPANY: URANIUM ENERGY CORPORATION REPORT DATE: February 13, 2007 IDENTIFICATION: Paul Breeden #3 0955 12-22-06 LABORATORY: JORDAN LABORATORIES, INC. MAJOR AND SECONDARY CONSTITUENTS ITEM MG/L EPM CONDUCTANCE %EPM CALCIUM(CA) 33 1.65 85.80 15.05 MAGNESIUM (MG) 14 1.15 53.59 10.49 SODIUM(NA) 8.05 185 393.65 73.45 POTASSIUM(K) 4.2 0.11 7.92 1.00 TOTAL CATION 10.96 CARBONATE (CO3) 0 0.00 0.00 0.00 BICARBONATE (HCO3) 361 5.92 258.11 51.84 26 SULFATE (SO4) 0.54 39.91 4.73 176 CHLORIDE (CL) 4.96 376.46 43.43 <0.01 NITRATE (NO3-N) TOTAL 0.60 1215.44 FLUORIDE (F) SILICA(SIO2) 26 TOTAL ANION 11.42 TOTAL ION 826 ACCURACY CHECK RANGE TDS(180 C) 643 ION 0.960 (.96 TØ 1.04) TOT ION-0.5 HCO3= 645 TDS 0.996 (.90 TO 1.10) · EC EC(25 C) 1140 UMHOS 1.020 (.95 TO 1.05)EC(DIL) = 99.212.5 =**1240 UMHOS** X ALK. AS CACO3 296 RADIATION-PICOCURIES/LITER PH 7.57 GROSS ALPHA +/-GROSS BETA +/-MINOR AND TRACE CONSTITUENTS RADIUM 226 1.1 +/-0.1 ITEM MG/L ITEM MG/L ITEM MG/L ARSENIC (AS) <0.001 MANGANESE (MN) <0.01 VANADIUM(V) <0.0002 BARIUM(BA) MERCURY (HG) ZINC(ZN) CADMIUM(CD) <0.0001 MOLY. (MO) <0.1 BORON (B) AMMONIA-N NICKEL(NI) <0.1 CHROM. (CR) <0.001 COPPER (CU) SELENIUM(SE) 0.08 IRON(FE) SILVER (AG) LEAD(PB) <0.001 URANIUM (U) <0.001 **%CATIONS** %ANIONS 20 0 20 60 40 I HCO3 NOTE: OC Documnetation CA is on File at Jordan Labs in I SO4 Corpus Christi, TX MG CHECKED BY:

ICL

LAB.NO:M44-3855

NA+K|

Lewis Bitterly 1 0945 01-02-07

URANIUM ENERGY CORPORATION

COMPANY:

IDENTIFICATION:

LABORATORY: JORDAN LABORATORIES, INC. MAJOR AND SECONDARY CONSTITUENTS ITEM MG/L EPM CONDUCTANCE %EPM CALCIUM (CA) 127 6.34 329.68 53.64 MAGNESIUM (MG) 20 1.64 76.42 13.87 SODIUM(NA) 87 3.78 184.84 31.98 POTASSIUM(K) 0.06 0.51 2.4 4.32 TOTAL CATION 11.82 0 0.00 CARBONATE (CO3) 0.00 0.00 BICARBONATE (HCO3) 326 5.34 232.82 47.09 SULFATE (SO4) 42 0.87 64.29 7.67 182 CHLORIDE (CL) 5.13 389.37 45.24 NITRATE (NO3-N) 2.1 TOTAL 1281.75 FLUORIDE (F) 0.62 SILICA(SIO2) 29 TOTAL ANION 11.34 ACCURACY CHECK TOTAL ION 818 RANGE ION 1.042 (.96 T0 1.04)TDS(180 C) 665 TOT ION-0.5 HCO3= (.90 TO 1.10) 655 TDS 1.015 EC 1.006 (.95 TO 1.05) EC(25 C) 1150 UMHOS 1290 UMHOS EC(DIL)=103.2X 12.5 =RADIATION-PICOCURIES/LITER ALK. AS CACO3 267 7.26 GROSS ALPHA PH +/-GROSS BETA +/-MINOR AND TRACE CONSTITUENTS RADIUM 226 0.5 + / -0.1 MG/L ITEM MG/L MG/L ITEM ITEM 0.002 <0.01 VANADIUM(V) MANGANESE (MN) ARSENIC(AS) <0.0002 ZINC(ZN) BARIUM(BA) MERCURY (HG) CADMIUM (CD) <0.0001 MOLY. (MO) <0.1 BORON(B) CHROM. (CR) NICKEL(NI) AMMONIA-N <0.1 0.006 COPPER (CU) SELENIUM (SE) 0.02 SILVER (AG) IRON(FE) LEAD(PB) <0.001 URANIUM (U) 0.002 **%CATIONS** %ANIONS 20 0 20 40 60 80 60 40 ____| ___ | ___ | ___ | ___ | ___ | ___ | ___ | ___ | __ | __ | HCO3 NOTE: OC Documnetation CA is on File at Jordan Labs in SO4 Corpus Christi, TX MG CHECKED BY: l CL NA+K LAB.NO:M45-015

REPORT DATE:

February 13, 2007

Kenneth Liesman 1

URANIUM ENERGY CORPORATION

1300 01-02-07

COMPANY:

IDENTIFICATION:

LABORATORY: JORDAN LABORATORIES, INC. MAJOR AND SECONDARY CONSTITUENTS ITEM MG/L EPM CONDUCTANCE %EPM 6.99 CALCIUM(CA) 140 363.48 63.09 MAGNESIUM (MG) 11 0.90 41.94 8.12 72 3.13 153.06 SODIUM (NA) 28.25 POTASSIUM(K) 2.3 0.06 4.32 0.54 TOTAL CATION 11.08 0.00 0.00 CARBONATE (CO3) 0 0.00 443 7.26 316.54 BICARBONATE (HCO3) 69.67 SULFATE (SO4) 38 0.79 58.38 7.58 CHLORIDE (CL) 84 2.37 179.88 22.74 NITRATE (NO3-N) 5.4 1117.60 0.30 TOTAL FLUORIDE (F) SILICA(SIO2) 36 TOTAL ANION 10.42 TOTAL ION 832 ACCURACY CHECK RANGE TDS(180 C) 621 ION 1.063 (.96 TO 1.04) TOT ION-0.5 HCO3= 611 TDS (.90 TO 1.10) 1.017 EC(25 C) 1020 UMHOS EC 1.020 (.95 TO 1.05) EC(DIL) = 91.21140 UMHOS X 12.5 =RADIATION-PICOCURIES/LITER ALK. AS CACO3 363 PH 7.18 GROSS ALPHA +/-GROSS BETA +/-MINOR AND TRACE CONSTITUENTS RADIUM 226 0.6 +/-0.1 MG/L MG/L ITEM MG/L ITEM ITEM ARSENIC (AS) 0.004 MANGANESE (MN) <0.01 VANADIUM(V) <0.0002 BARIUM (BA) MERCURY (HG) ZINC(ZN) CADMIUM(CD) <0.0001 MOLY. (MO) <0.1 BORON (B) CHROM. (CR) NICKEL (NI) AMMONIA-N < 0.10.003 COPPER (CU) SELENIUM (SE) 0.01 IRON(FE) SILVER (AG) 0.004 <0.001 LEAD(PB) URANIUM (U) *CATIONS %ANIONS 80 20 0 20 40 60 60 40 ----|----|----|----|----|----|-|-|-| HCO3 NOTE: OC Documnetation CA is on File at Jordan Labs in SO4 Corpus Christi, TX MG CHECKED BY: CLNA+K LAB.NO:M45-016

REPORT DATE: February 13, 2007

COMPANY: URANIUM ENERGY CORPORATION REPORT DATE: February 13, 2007 IDENTIFICATION: Deanna Wacker 1 1040 01-02-07 LABORATORY: JORDAN LABORATORIES, INC. MAJOR AND SECONDARY CONSTITUENTS ITEM MG/L EPM CONDUCTANCE %EPM 5.74 298.48 50.71 CALCIUM(CA) 115 15.28 MAGNESIUM (MG) 21 1.73 80.62 86 3.74 SODIUM (NA) 182.89 33.04 POTASSIUM(K) 4.2 0.11 7.92 0.97 TOTAL CATION 11.32 0.00 CARBONATE (CO3) 0 0.00 0.00 5.24 BICARBONATE (HCO3) 320 228.46 47.85 37 0.77 56.90 SULFATE (SO4) 7.03 CHLORIDE (CL) 175 4.94 374.95 45.11 NITRATE (NO3-N) 3.1 0.70 TOTAL 1230.22 FLUORIDE (F) SILICA(SIO2) 31 TOTAL ANION 10.95 TOTAL ION 793 ACCURACY CHECK RANGE 645 ION 1.034 (.96 TØ 1.04) TDS(180 C) TOT ION-0.5 HCO3= 633 TDS 1.019 (.90 TO 1.10) 1100 UMHOS EC(25 C) EC 0.984 (.95 TO 1.05) EC(DIL) = 96.81210 UMHOS ALK. AS CACO3 262 RADIATION-PICOCURIES/LITER 7.38 PH GROSS ALPHA +/-+/-GROSS BETA RADIUM 226 +/-MINOR AND TRACE CONSTITUENTS 0.4 0.1 MG/L ITEM MG/L ITEM ITEM MG/L 0.001 <0.01 VANADIUM(V) ARSENIC (AS) MANGANESE (MN) MERCURY (HG) <0.0002 ZINC(ZN) BARIUM(BA) CADMIUM (CD) <0.0001 MOLY. (MO) <0.1 BORON(B) NICKEL(NI) AMMONIA-N <0.1 CHROM. (CR) 0.004 COPPER (CU) SELENIUM(SE) 0.01 SILVER (AG) IRON(FE) 0.002 LEAD(PB) <0.001 URANIUM (U) %CATIONS %ANIONS 20 Ø 20 40 60 40 60 HCO3 NOTE: QC Documnetation CA is on File at Jordan Labs in **SO4** Corpus Christi, TX MG CHECKED BY: NA+K

LAB.NO:M45-018

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URANIUM ENERGY CORPORATION COMPANY: REPORT DATE: February 14, 2007 IDENTIFICATION: Harold Becker #1 1005 1-3-07 LABORATORY: JORDAN LABORATORIES, INC. MAJOR AND SECONDARY CONSTITUENTS ITEM MG/L **EPM** CONDUCTANCE %EPM CALCIUM(CA) 81 4.04 210.08 37.13 MAGNESIUM (MG) 19 1.56 72.70 14.34 47.98 SODIUM (NA) 120 5.22 255.26 POTASSIUM(K) 2.5 0.06 4.32 0.55 TOTAL CATION 10.88 0.00 CARBONATE (CO3) 0 0.00 0.00 BICARBONATE (HCO3) 5.93 258.55 362 56.80 SULFATE (SO4) 46 0.96 70.94 9.20 CHLORIDE (CL) 126 3,55 269.45 34.00 NITRATE (NO3-N) .13 .79 TOTAL FLUORIDE(F) 1141.29 39 SILICA(SIO2) TOTAL ANION 10.44 TOTAL ION 796 ACCURACY CHECK RANGE 638 ION 1.042 TDS(180 C) (.96 T0 1.04)(.90 TO 1.10) TOT ION-0.5 HCO3= 615 TDS 1.037 **1020 UMHOS** EC 0.990 EC(25 C) (.95 TO 1.05)EC(DIL) = 90.4X 12.5 =1130 UMHOS RADIATION-PICOCURIES/LITER ALK. AS CACO3 297 PH 7.43 GROSS ALPHA +/-GROSS BETA +/-MINOR AND TRACE CONSTITUENTS RADIUM 226 0.2 +/-0.1 ITEM MG/L ITEM MG/L ITEM MG/L ARSENIC(AS) <0.001 MANGANESE (MN) <0.01 VANADIUM(V) <0.0002 MERCURY (HG) ZINC(ZN) BARIUM(BA) <0.0001 MOLY. (MO) <0.1 BORON (B) CADMIUM(CD) CHROM. (CR) NICKEL(NI) AMMONIA-N <0.1 0.001 COPPER (CU) SELENIUM (SE) 0.03 SILVER (AG) IRON(FE) <0.001 0.004 LEAD(PB) URANIUM(U) **%CATIONS *ANIONS** 40 20 0 20 60 80 80 60 CA HCO3 NOTE: QC Documnetation is on File at Jordan Labs in **SO4** G Corpus Christi, TX CHECKED BY: CL NA+K

COMPANY: URANIUM ENERGY CORPORATION REPORT DATE: February 14, 2007 IDENTIFICATION: Reta Brown #1 0850 1-3-07 LABORATORY: JORDAN LABORATORIES, INC. MAJOR AND SECONDARY CONSTITUENTS ITEM MG/L EPM CONDUCTANCE %EPM CALCIUM(CA) 5.24 272.48 105 46.09 19 1.56 72.70 MAGNESIUM (MG) 13.72 103 4.48 219.07 SODIUM(NA) 39.40 POTASSIUM(K) 3.6 0.09 6.48 0.79 TOTAL CATION 11.37 CARBONATE (CO3) 0.00 0.00 0.00 4.97 BICARBONATE (HCO3) 303 216.69 45.93 SULFATE (SO4) 37 0.77 56.90 7.12 CHLORIDE (CL) 180 5.08 385.57 46.95 NITRATE (NO3-N) 1.6 TOTAL 0.57 1229.90 FLUORIDE (F) SILICA(SIO2) 38 TOTAL ANION 10.82 TOTAL ION 791 ACCURACY CHECK RANGE 693 ION 1.051 $(.96 \text{ T}0 \ 1.04)$ TDS(180 C) TDS TOT ION-0.5 HCO3= 639 1.084 (.90 TO 1.10) **1110 UMHOS** EC EC(25 C) 0.992 (.95 TO 1.05)EC(DIL) = 97.6X 12.5 =**1220 UMHOS** ALK. AS CACO3 248 RADIATION-PICOCURIES/LITER PH GROSS ALPHA 7.35 +/-GROSS BETA +/-RADIUM 226 0.1 MINOR AND TRACE CONSTITUENTS +/-MG/L MG/L ITEM ITEM ITEM MG/L 0.002 MANGANESE (MN) <0.01 VANADIUM(V) ARSENIC (AS) <0.0002 MERCURY (HG) ZINC(ZN) BARIUM(BA) <0.1 <0.0001 BORON(B) CADMIUM(CD) MOLY. (MO) AMMONIA-N <0.1 CHROM. (CR) NICKEL(NI) 0.002 COPPER(CU) SELENIUM (SE) 0.03 IRON(FE) SILVER (AG) LEAD(PB) 0.002 <0.001 URANIUM(U) **%CATIONS** %ANIONS 80 80 20 40 60 NOTE: QC Documnetation CA HCO3 is on File at Jordan Labs in 1 SO4 Corpus Christi, TX ١G CHECKED BY:

CL

LAB.NO:M45-028

URANIUM ENERGY CORPORATION COMPANY: REPORT DATE: February 14, 2007 W.A. Wimberly #1 IDENTIFICATION: 1120 1-3-07 LABORATORY: JORDAN LABORATORIES, INC. MAJOR AND SECONDARY CONSTITUENTS ITEM MG/L **EPM** CONDUCTANCE %EPM CALCIUM(CA) 83 4.14 215.28 39.54 MAGNESIUM (MG) 16 1.32 61.51 12.61 SODIUM (NA) 113 4.92 240.59 46.99 3.7 POTASSIUM(K) 0.09 6.48 0.86 TOTAL CATION 10,47 CARBONATE (CO3) 0 0.00 0.00 0.00 BICARBONATE (HCO3) 325 5.33 232.39 53.19 SULFATE (SO4) 2 0.04 2.96 0.40 CHLORIDE (CL) 165 4.65 352.94 46.41 NITRATE (NO3-N) <0.01 TOTAL FLUORIDE(F) .43 1112.14 32 SILICA(SIO2) TOTAL ANION 10.02 TOTAL ION 740 ACCURACY CHECK RANGE 600 TDS(180 C) ION 1.045 (.96 TØ 1.04) 1.039 TOT ION-0.5 HCO3= 578 TDS (.90 TO 1.10) 1010 UMHOS EC EC(25 C) 0.989 (.95 TO 1.05) EC(DIL) = 88.0X 12.5 =1100 UMHOS ALK. AS CACO3 266 RADIATION-PICOCURIES/LITER PH GROSS ALPHA +/-7.50 GROSS BETA +/-+/~ MINOR AND TRACE CONSTITUENTS RADIUM 226 0.5 0.1 MG/L ITEM MG/L ITEM MG/L ITEM ARSENIC (AS) 0.001 MANGANESE (MN) 0.03 VANADIUM(V) BARIUM(BA) MERCURY (HG) <0.0002 ZINC(ZN) <0.0001 MOLY. (MO) <0.1 BORON(B) CADMIUM(CD) AMMONIA-N CHROM. (CR) NICKEL(NI) <0.1 <0.001 COPPER (CU) SELENIUM (SE) IRON(FE) 0.05 SILVER (AG) <0.001 <0.001 LEAD(PB) URANIUM(U) **%CATIONS %ANIONS** 80 40 20 0 20 40 60 60 NOTE: QC Documnetation CA HCO3 is on File at Jordan Labs in **SO4** Corpus Christi, TX **IG** CHECKED BY: NA+K| CL

GROUND WATER ANALYSIS REPORT-IN SITU MINING-URANIUM URANIUM ENERGY CORPORATION **JANUARY 26, 2007** COMPANY: REPORT DATE: IDENTIFICATION: Aldon Bade #1 12/19/06 @ 1005 Hr. LABORATORY: JORDAN LABORATORIES, INC. MAJOR AND SECONDARY CONSTITUENTS ITEM MG/L EPM CONDUCTANCE %EPM CALCIUM(CA) 110 5.49 285.48 46.88 MAGNESIUM (MG) 19 1.56 72.70 13.32 SODIUM(NA) 105 4.57 223.47 39.03 POTASSIUM(K) 3.6 0.09 0.77 6.48 TOTAL CATION 11.71 CARBONATE (CO3) 0 0.00 0.00 0.00 5.11 222.80 44.90 BICARBONATE (HCO3) 312 60 1.25 92.38 10.98 SULFATE (SO4) CHLORIDE (CL) 178 5.02 381.02 44.11 NITRATE (NO3-N) 1.3 TOTAL 1284.32 FLUORIDE (F) 0.51 SILICA(SIO2) 40 TOTAL ANION 11.38 TOTAL ION 829 ACCURACY CHECK RANGE TDS(180 C) 685 ION 1.029 $(.96 \text{ T}0 \ 1.04)$ TOT ION-0.5 HCO3= 673 TDS 1.017 (.90 TO 1.10)(.95 TO 1.05) EC(25 C) **1160 UMHOS** EC 1.004 EC(DIL)=103.2X 12.5 =1290 UMHOS ALK. AS CACO3 256 RADIATION-PICOCURIES/LITER PH 7.39 **GROSS ALPHA** +/-**GROSS BETA** +/-MINOR AND TRACE CONSTITUENTS RADIUM 226 0.6 +/-0.1

ITEM ARSENIC(AS) BARIUM(BA)	MG/L 0.002	ITEM MANGANESE (MN) MERCURY (HG)	MG/L <0.01 <0.0002	ITEM VANADIUM(V) ZINC(ZN)	MG/L
CADMIUM(CD) CHROM.(CR) COPPER(CU)	<0.0001	MOLY.(MO) NICKEL(NI) SELENIUM(SE)	<0.1 0.001	BORON(B) AMMONIA-N	<0.1
IRON(FE) LEAD(PB)	<0.01 <0.001	SILVER(AG) URANIUM(U)	0.002		

***CATIONS %ANIONS** 80 60 40 20 20 40 60 HCO3 NOTE: QC Documnetation CA is on File at Jordan Labs in МG **SO4** Corpus Christi, TX CHECKED BY:

CL

LAB. NO: M44-3805

URANIUM ENERGY CORPORATION REPORT DATE: **JANUARY 26, 2007** COMPANY: IDENTIFICATION: Aldon Bade #2 12/19/06 @ 1120 Hr. LABORATORY: JORDAN LABORATORIES, INC. MAJOR AND SECONDARY CONSTITUENTS ITEM MG/L EPM CONDUCTANCE %EPM CALCIUM (CA) 110 5.49 285.48 46.37 MAGNESIUM (MG) 18 1.48 68.97 12.50 110 SODIUM (NA) 4.78 233.74 40.37 POTASSIUM(K) 3.6 0.09 6.48 0.76 TOTAL CATION 11.84 CARBONATE (CO3) 0.00 0 0.00 0.00 BICARBONATE (HCO3) 310 5.08 221.49 44.76 SULFATE (SO4) 60 1.25 92.38 11.01 CHLORIDE (CL) 178 5.02 381.02 44.23 1.5 NITRATE (NO3-N) .57 FLUORIDE (F) TOTAL 1289.55 SILICA(SIO2) 42 TOTAL ANION 11.35 TOTAL ION 834 ACCURACY CHECK RANGE 1.043 (.96 TØ 1.04) TDS(180 C) 665 ION TOT ION-0.5 HCO3= 679 TDS 0.980 (.90 TO 1.10) 1150 UMHOS EC 0.993 EC(25 C) (.95 TO 1.05) EC(DIL)=102.4X 12.5 =**1280 UMHOS** ALK. AS CACO3 254 RADIATION-PICOCURIES/LITER PH 7.33 **GROSS ALPHA** +/-GROSS BETA +/-MINOR AND TRACE CONSTITUENTS RADIUM 226 1.0 +/-0.1 ITEM MG/L ITEM MG/L ITEM MG/L 0.003 <0.01 VANADIUM(V) ARSENIC (AS) MANGANESE (MN) BARIUM (BA) MERCURY (HG) <0.0002 ZINC(ZN) <0.1 <0.0001 MOLY. (MO) BORON(B) CADMIUM (CD) CHROM. (CR) NICKEL(NI) AMMONIA-N < 0.1 0.002 SELENIUM (SE) COPPER (CU) IRON(FE) <0.01 SILVER (AG) 0.002 LEAD (PB) <0.001 URANIUM(U) ***CATIONS** %ANIONS 80 20 20 40 60 80 60 40 HCO3 NOTE: QC Documnetation CA is on File at Jordan Labs in SO4 Corpus Christi, TX ЧG CHECKED BY:

CL

COMPANY: URANIUM ENERGY CORPORATION REPORT DATE: January 29,2007

IDENTIFICATION: St. Peter's Church No. 1

0905 12-20-06

LABORATORY: JORDAN LABORATORIES, INC.

MAJOR AND SECONDARY CONSTITUENTS

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ITEM	MG/L	EPM	CONDUCTANCE	%EPM
CALCIUM(CA)	125	6.24	324.48	48.04
MAGNESIUM (MG)	16	1.32	61.51	10.16
SODIUM(NA)	124	5.39	263.57	41.49
POTASSIUM(K)	1.6	0.04	2.88	0.31
			2.00	
	TOTAL CATION	12.99		
CARBONATE (CO3)	0	0.00	0.00	0.00
BICARBONATE (HCO3)	504	8.26	360.14	67.05
SULFATE (SO4)	27	0.56	41.38	4.55
CHLORIDE (CL)	124	3.50	265.65	28.41
NITRATE (NO3-N)	3.0			
FLUORIDE(F)	0.55	TOTAL	1319.61	
SILICA(SIO2)	63			
	TOTAL ANION	12.32		
TOTAL IO			ACCURACY CHEC	K
101111 10	555			ANGE
TDS(180 C)	751	ION		
TOT ION-0.5 HCO3=	736	TDS	1.020 (.90	
EC(25 C)	1170 UMHOS	EC	0.993 (.95	TO 1.05)
EC(DIL)=104.8 X 12.5				
ALK. AS CACO3	413		rion-picocuries/	
PH	7.27		ALPHA +/	
•				-
MINOR AND TRACE CONSTITU	UENTS	RADIUI	M 226 Ø.2 +/	- 0.1
ITEM MG/L		MG/L		MG/L
ARSENIC(AS) 0.008	• •			
BARIUM(BA)	MERCURY (HG)	<0.0002	ZINC(ZN)	
CADMIUM(CD) <0.0001	MOLY. (MO)	<0.1	BORON(B)	
CHROM. (CR)	NICKEL(NI)		AMMONIA-N	<0.1
COPPER (CU)	SELENIUM (SE)	0.004		
IRON(FE) 0.03	SILVER(AG)			
LEAD(PB) <0.001	URANIUM(U)	0.003		
%CATIONS	%ANIONS			
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COMPANY: URANIUM ENERGY CORPORATION REPORT DATE: January 29,2007

IDENTIFICATION: St. Peter's Church No. 2

0935 12-20-06

LABORATORY: JORDAN LABORATORIES, INC.

MAJOR AND SECONDARY CONSTITUENTS

ITEM	MG/L	EPM	CONDUCTANCE	%EPM
CRY CTIME (CA)	240	16 07	000 44	60.07
CALCIUM(CA)	340	16.97	882.44	69.27
MAGNESIUM (MG)	27	2.22	103.45	9.06
SODIUM(NA)	120	5.22	255.26	21.31
POTASSIUM(K)	3.6	0.09	6.48	0.37
	TOTAL CATION	24.5		
CARBONATE(CO3)	0	0.00	0.00	0.00
BICARBONATE (HCO3)	359	5.88	256.37	25.48
SULFATE(SO4)	184	3.83	283.04	16.59
CHLORIDE(CL)	474	13.37	1014.78	57.93
NITRATE(NO3-N)	10	13.37	1014.70	37.33
FLUORIDE(F)	0.21	TOTAL	2801.82	
SILICA(SIO2)	37	IOIAL	2001.02	
SILICA(SIO2)	37			
	TOTAL ANION	23.08		
TOTAL ION			ACCURACY CHECK	•
101112 20.				NGE
TDS(180 C)	1510	ION	1.062 (.96 7	
TOT ION-0.5 HCO3=	1375	TDS	1.098 (.90 7	•
EC(25 C)	2360 UMHOS	EC		0 1.05)
•		EC	1.010 (.95 1	O 1.05)
	294	יו אויי אויי	TON DICOCUPIES /I	TATED
ALK. AS CACO3			TION-PICOCURIES/I	
PH	7.12		ALPHA +/-	
MINOR THE MENCE CONOMING	rmarm c		BETA +/-	
MINOR AND TRACE CONSTITU	LINTS	RADIU	M 226 0.2 +/-	0.1
ITEM MG/L	ITEM	MG/L	ITEM	MG/L
ARSENIC(AS) 0.002	MANGANESE (MN)	<0.01	VANADIUM(V)	, 1
BARIUM(BA)	MERCURY (HG)	<0.0002	ZINC(ZN)	
CADMIUM(CD) <0.0001	MOLY. (MO)	<0.1	BORON (B)	
CHROM. (CR)	NICKEL(NI)	~0.1	AMMONIA-N	<0.1
· · · · · · · · · · · · · · · · · · ·	• •	0.005	AMMONIA-N	~0.1
COPPER(CU)	SELENIUM(SE) SILVER(AG)	v. vv5		
IRON(FE) < 0.01	• •	0.003		
LEAD(PB) <0.001	URANIUM(U)	0.003		
%CATIONS	%ANIONS			
80 60 40 20 0	20 40 60	80		
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GROUND WATER ANALYSIS REPORT-IN SITU MINING-URANIUM

COMPANY: URANIUM ENERGY CORPORATION REPORT DATE: January 29,2007

IDENTIFICATION: Harley Martin No. 1

1230 12-20-06

LABORATORY: JORDAN LABORATORIES, INC.

MAJOR AND SECONDARY CONSTITUENTS

I	TEM		MG/L	EPM	CONDUCTANCE	%EPM
C	ALCIUM(CA)		95	4.74	246.48	75.48
	ALCION(CA) AGNESIUM(MG)		7.6	0.63	29.36	10.03
			20			
	ODIUM(NA)			0.87	42.54	13.85
Р	OTASSIUM(K)		1.6	0.04	2.88	0.64
			TOTAL CATION	6.28		
C	ARBONATE (CO3)		Ø	0.00	0.00	0.00
	ICARBONATE (HC	าวง	344	5.64	245.90	88.82
	ULFATE (SO4)	,	8	0.17	12.56	2.68
	HLORIDE (CL)		19	0.54	40.99	8.50
	-		2.9	0.54	40.33	0.50
	ITRATE(NO3-N)		0.40	moma t	620 71	
	LUORIDE(F)			TOTAL	620.71	
5	ILICA(SIO2)		36			
			TOTAL ANION	6.35		
		TOTAL ION	535		ACCURACY CHEC	
						ANGE
	DS(180 C)		390	ION	0.989 (.96	
T	OT ION-0.5 HCC	D3=	363	TDS	1.076 (.90	TO 1.10)
E	C(25 C)		532 UMHOS	EC	0.952 (.95	TO 1.05)
E	C(DIL) = 93.8	X = 6.3 =	591 UMHOS			
A	LK. AS CACO3		282	RADIA'	TION-PICOCURIES/	LITER
P:	Н		7.44	GROSS	ALPHA +/	_
_ ,					BETA +/	
М	INOR AND TRACE	E CONSTITUE	NTS		M 226 0.8 +/	
I	TEM	MG/L	ITEM	MG/L	ITEM	MG/L
A	RSENIC(AS)	0.005	MANGANESE (MN)	<0.01	VANADIUM(V)	
	ARIUM(BA)	•	MERCURY (HG)	<0.0002	ZINC(ZN)	
	ADMIUM (CD)	<0.0001	MOLY. (MO)	<0.1	BORON (B)	
	HROM. (CR)		NICKEL (NI)		AMMONIA-N	<0.1
	OPPER(CU)		SELENIUM(SE)	0.001		
	RON(FE)	0.01	SILVER(AG)			
	EAD(PB)	<0.001	URANIUM(U)	0.003		
, سد.	ERD(LD)	~0.001	OKMITOM(O)	0.005		
	2CI	ATIONS	%ANIONS			
	80 60 40	20 0	20 40 60	80		
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LAB.NO:M44-3839

COMPANY: URANIUM ENERGY CORPORATION REPORT DATE: January 29, 2007 IDENTIFICATION: Arthur Jolly #1 1000 12-21-06 LABORATORY: JORDAN LABORATORIES, INC. MAJOR AND SECONDARY CONSTITUENTS ITEM MG/L **EPM** CONDUCTANCE %EPM CALCIUM(CA) 105 5.24 272.48 46.91 MAGNESIUM (MG) 20 1.64 76.42 14.68 SODIUM (NA) 96 4.18 204.40 37.42 POTASSIUM(K) 4.3 0.11 7,92 0.98 TOTAL CATION 11.17 0 0.00 0.00 CARBONATE (CO3) 0.00 5.38 BICARBONATE (HCO3) 328 234.57 49.86 SULFATE (SO4) 0.90 43 66.51 8.34 160 4.51 CHLORIDE (CL) 342.31 41.80 NITRATE (NO3-N) 1.8 FLUORIDE (F) 0.62 TOTAL 1204.61 SILICA(SIO2) 35 TOTAL ANION 10.79 794 ACCURACY CHECK TOTAL ION RANGE 663 TDS(180 C) ION 1.035 (.96 TØ 1.04) TOT ION-0.5 HCO3= 630 TDS 1.053 (.90 TO 1.10) 1090 UMHOS EC 1.013 (.95 TO 1.05) EC(25 C) EC(DIL) = 97.6X 12.5 =1220 UMHOS RADIATION-PICOCURIES/LITER ALK. AS CACO3 269 PH 7.42 GROSS ALPHA 0 +/-0 GROSS BETA 0 0 +/-MINOR AND TRACE CONSTITUENTS +/-RADIUM 226 0.8 0.1 ITEM MG/L ITEM MG/L ITEM MG/L ARSENIC (AS) 0.004 MANGANESE (MN) <0.01 VANADIUM(V) MERCURY (HG) <0.0002 ZINC(ZN) BARIUM(BA) <0.0001 MOLY. (MO) <0.1 BORON (B) CADMIUM(CD) AMMONIA-N <0.1 NICKEL(NI) CHROM. (CR) SELENIUM (SE) 0.001 COPPER (CU) IRON(FE) 0.03 SILVER (AG) <0.001 URANIUM (U) 0.003 LEAD(PB) **%CATIONS %ANIONS** 60 0 80 80 60 20 20 40 40 CA HCO₃ NOTE: QC Documnetation is on File at Jordan Labs in **SO4** Corpus Christi, TX MG CHECKED BY: NA+K| CL

LAB.NO:M44-3848

GROUND WATER ANALYSIS REPORT-IN SITU MINING-URANIUM

COMPANY: URANIUM ENERGY CORPORATION REPORT DATE: January 29, 2007 IDENTIFICATION: Cecelia Edwards #1 1100 12-21-06 LABORATORY: JORDAN LABORATORIES, INC. MAJOR AND SECONDARY CONSTITUENTS ITEM EPM CONDUCTANCE MG/L %EPM 259.48 46.55 CALCIUM(CA) 100 4.99 MAGNESIUM (MG) 20 1.64 76.42 15.30 92 4.00 195.60 37.31 SODIUM(NA) POTASSIUM(K) 3.6 0.09 6.48 0.84 TOTAL CATION 10.72 CARBONATE (CO3) 0 0.00 0.00 0.00 5.28 230.21 48.62 BICARBONATE (HCO3) 322 SULFATE (SO4) 43 0.90 66.51 8,29 4.68 166 355.21 43.09 CHLORIDE (CL) NITRATE (NO3-N) 1.5 TOTAL 1189.91 FLUORIDE (F) 0.65 SILICA(SIO2) 35 TOTAL ANION 10.86 TOTAL ION 784 ACCURACY CHECK RANGE 0.987 TDS(180 C) 675 ION (.96 T0 1.04)TOT ION-0.5 HCO3= 623 TDS 1.084 (.90 TO 1.10) **1050 UMHOS** EC 0.975 (.95 TO 1.05)EC(25 C) 1160 UMHOS EC(DIL) = 92.8 X12.5 =ALK. AS CACO3 264 RADIATION-PICOCURIES/LITER PH 7.48 GROSS ALPHA +/-GROSS BETA +/-RADIUM 226 MINOR AND TRACE CONSTITUENTS 0.3 +/-0.1 MG/L ITEM MG/L ITEM MG/L ITEM ARSENIC(AS) 0.003 MANGANESE (MN) <0.01 VANADIUM(V) <0.0002 ZINC(ZN) MERCURY (HG) BARIUM(BA) < 0.1BORON(B) CADMIUM(CD) <0.0001 MOLY. (MO) AMMONIA-N < 0.10 CHROM. (CR) NICKEL(NI) SELENIUM (SE) 0.002 COPPER(CU) IRON(FE) 0.01 SILVER (AG) <0.001 0.003 LEAD(PB) URANIUM (U) **%CATIONS** %ANIONS 80 60 40 20 0 20 40 60 80 HCO3 NOTE: QC Documnetation CA is on File at Jordan Labs in SO4 Corpus Christi, TX MG CHECKED BY: CL NA+K

LAB.NO:M44-3847

COMPANY: URANIUM ENERGY CORPORATION REPORT DATE: March 20, 2007 IDENTIFICATION: Dornberg Water Well

2-27-07

LABORATORY: JORDAN LABORATORIES, INC.

MAJOR AND SECONDARY CONSTITUENTS

ITEM		MG/L	EPM	CONDUCTANCE	%EPM
CALCIUM(CA)		108	5.39	280.28	47.49
MAGNESIUM (MG)		18	1.48	68.97	13.04
SODIUM(NA)		100.8	4.38	214.18	38.59
POTASSIUM(K)		3.9	0.10	7.20	0.88
FOIASSIUM(X)		3.9	0.10	1.20	W.00
		TOTAL CATION	11.35		
CARBONATE (CO3)	0	0.00 ·	0.00	0.00
BICARBONATE (HO		299	4.90	213.64	43.36
SULFATE (SO4)	•	35	0.73	53.95	6.46
CHLORIDE(CL)		201	5.67	430.35	50.18
NITRATE(NO3-N	١	1.3	510,	400.03	30.10
FLUORIDE(F)	,	0.49	TOTAL	1268.57	
SILICA(SIO2)		34	IOIAL	1200.57	
			11 00		
	ECE1- 701	TOTAL ANION	11.30		
	TOTAL ION	801		ACCURACY CHEC	
					ANGE
TDS(180 C)		613	ION	1.004 (.96	
TOT ION-0.5 HO	CO3=	652	TDS	0.940 (.90	
EC(25 C)		1160 UMHOS	EC	0.993 (.95	TO 1.05)
EC(DIL)=100.8	X 12.5 =				
ALK. AS CACO3		245	RADIA'	rion-picocuries/	LITER
PH		7.56	GROSS	ALPHA +/	' -
			GROSS	BETA +/	'-
MINOR AND TRAC	CE CONSTITUE	ents	RADIU	M 226 0.5 +/	'- 0.1
ITEM	MG/L	ITEM	MG/L	ITEM	MG/L
ARSENIC (AS)	0.005	MANGANESE (MN)	<0.01	VANADIUM(V)	, _
BARIUM(BA)	0.000	MERCURY (HG)	<0.0002	ZINC(ZN)	
CADMIUM(CD)	<0.0001	MOLY. (MO)	<0.1	BORON (B)	
CHROM. (CR)	<0.0001	NICKEL(NI)	~0.1	AMMONIA-N	<0.1
			<0.001	APMONIA-N	CU.1
COPPER(CU)	.0 04	SELENIUM(SE)	<0.001		
IRON(FE)	<0.01	SILVER(AG)			
LEAD(PB)	<0.001	URANIUM(U)	0.003		
	CATIONS	%ANIONS			
80 60 40	20 0	20 40 60	80		
- -		-	-		
Y *		*	HCO3	NOTE: QC Documn	
	•	•		is on Fil	
1	•	•	1	Jordan La	
3	ale a	•	SO4	Corpus Ch	risti, TX
				CHECKED BY:	
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j- -			-	α	
1 1 1 1		1 1 1	• •	-0 -	

LAB.NO:M45-644

URANIUM ENERGY CORPORATION P.O. Box 1329 Kingsville, TX 78364

Report of Analysis

Lab No.	Identification	Alpha	ross Activity i/L		oss ctivity /L
M44-3304	Jacobs Well 1115 10-25-06	11	+/- 4	7.8	+/- 1.8
M44-3306	Abrameit Windmill 1318 10-25-07	31	+/- 6	18	+/- 3
M45-604	Rig Supply Well 2-22-07	11	+/- 4	6.1	+/- 2.3

Analyst: Moore/Nixon

Analysis Date: Method: 900.0

04-02-07

04-02-07

Respectfully Submitted,

Carl F. Crownover, Pres.

URANIUM ENERGY CORPORATION P.O. Box 1329 Kingsville, TX 78364

Report of Analysis

Lab No.	Identification	Alpha	ross Activity i/L	Gross Beta Activity pCi/L
M44-3756	Jim Bluntzer 1 1145 12-14-06	15	+/- 4	12 +/- 2
M44-3757	Joe Jacobs 1 0900 12-14-06	15	+/- 6	15 +/- 3
M44-3758	Joe Jacobs 2 1330 12-14-06	27	+/- 7	8.7 +/- 2.7
M44-3759	Margaret Rutherford : 1000 12-14-06	1 11	+/- 4	9.0 +/- 2.2
M44-3760	Margaret Rutherford : 1040 12-14-06	2 11	+/- 4	9.4 +/- 2.2
M44-3761	Marlene Wesselman 1 1230 12-14-06	6.8	8 +/- 2.7	7.1 +/- 1.6

Analyst: Moore/Nixon

Analysis Date: 02-07-07 02-07-07

Method: 900.0

Respectfully Submitted,

Carl F. Crownover, Pres.

URANIUM ENERGY CORPORATION P.O. Box 1329 Kingsville, TX 78364

Report of Analysis

Lab No.	Identification	Gross Alpha Activity pCi/L	Gross Beta Activity pCi/L
M44-3773	David Cheek 1 1300 12-15-06	14 +/- 5	12 +/- 3
M44-3774	David Cheek 2 1340 12-15-06	8.8 +/- 4.1	7.3 +/- 2.7
M44-3775	Craig Duderstaedt 1 1010 12-15-06	3.3 +/- 4.1	6.7 +/- 2.4
M44-3776	Craig Duderstaedt 2 1015 12-15-06	6.3 +/- 3.3	7.3 +/- 1.8
M44-3777	Ernest Hausman 1 1100 12-15-06	5.4 +/- 3.3	7.5 +/- 1.9
M44-3778	Ernest Hausman 2 1150 12-15-06	2.1 +/- 2.1	5.2 +/- 1.4
M44-3779	Michael Walker 1 0915 12-15-06	10 +/- 6	21 +/- 5

Analyst: Moore/Nixon

Analysis Date: Method: 900.0

02-08-07

02-08-07

Respectfully Submitted,

as

Carl F. Crownover, Pres.

URANIUM ENERGY CORPORATION P.O. Box 1329 Kingsville, TX 78364

Report of Analysis

Lab No.	Identification	Gross Alpha Activity pCi/L	Gross Beta Activity pCi/L
M44-3795	Tom Anklam 1 1210 12-18-06	13 +/- 4	9.6 +/- 2.0
M44-3796	Otto Bluntzer 1 0935 12-18-06	4.9 +/- 2.4	4.6 +/- 1.3
M44-3797	Gary Halepeska 1030 12-18-06	11 +/- 6	6.1 +/- 3.4
M44-3798	Ted Long 1 1305 12-18-06	8.5 +/- 3.7	29 +/- 3

Analyst: Moore/Nixon

Analysis Date: Method: 900.0

02-08-07

08-08-07

Respectfully Submitted,

100

Carl F. Crownover, Pres.

URANIUM ENERGY CORPORATION P.O. Box 1329 Kingsville, TX 78364

Report of Analysis

Lab No.	Identification	Gross Alpha Activity pCi/L	Gross Beta Activity pCi/L
M44-3805	Aldon Bade 1 1005 12-19-06	6.6 +/- 3.7	6.3 +/- 2.0
M44-3806	Aldon Bade 2 1120 12-19-06	11 +/- 4	7.2 +/- 2.0
M44-3807	Margaret Braquet 1 1320 12-19-06	4.9 +/~ 6.3	7.9 +/- 3.7
M44-3808	Margaret Braquet 2 1330 12-19-06	35 +/- 7	9.3 +/- 2.5
M44-3809	Gary Halepeska 2 0855 12-19-06	10 +/- 4	6.8 +/- 2.3

Analyst: Moore/Nixon

Analysis Date: Method: 900.0

02-08-07

02-08-07

Respectfully Submitted,

Carl F. Crownover, Pres.

URANIUM ENERGY CORPORATION P.O. Box 1329 Kingsville, TX 78364

Report of Analysis

Lab No.	Identification	Gross Alpha Activity pCi/L	Gross Beta Activity pCi/L
M44-3836	Otto Bluntzer 2 1410 12-20-06	2.5 +/- 2.2	5.8 +/- 1.6
M44-3837	St. Peters Church 1 0905 12-20-06	7.3 +/- 4.0	4.5 +/- 2.4
M44-3838	St. Peters Church 2 0935 12-20-06	8.9 +/- 6.7	6.7 +/- 3.5
M44-3839	Harley Martin 1 1230 12-20-06	3.5 +/- 2.0	5.7 +/- 1.3
M44-3840	Chiquita Tolbert 1 1110 12-20-06	2.8 +/- 2.5	2.8 +/- 1.5

Analyst: Moore/Nixon

Analysis Date: Method: 900.0

02-09-07

02-09-07

Respectfully Submitted,

Carl F. Crownover, Pres.

URANIUM ENERGY CORPORATION P.O. Box 1329 Kingsville, TX 78364

Report of Analysis

Lab No.	Identification	Gross Alpha Activit pCi/L	Gross cy Beta Activity pCi/L
M44-3847	Cecilia Edwards 1 1100 12-21-06	6.7 +/- 3	3.5 5.4 +/- 2.1
M44-3848	Auther Jolly 1 1000 12-21-06	4.4 +/- 2	2.8 8.4 +/- 2.4
M44-3849	R.G. Stafford 1 0905 12-21-06	8.1 +/- 3	3.6 7.4 +/- 2.0
M44-3850	Richard Tolbert 3 1235 12-21-06	30 +/- 9	8.8 +/- 4.6

Analyst: Moore/Nixon

Analysis Date: Method: 900.0

02-09-06

02-09-06

Respectfully Submitted,

Carl F. Crownover, Pres.

URANIUM ENERGY CORPORATION P.O. Box 1329 Kingsville, TX 78364

Report of Analysis

Lab No.	Identification	Gross Alpha Activity pCi/L	Gross Beta Activity pCi/L
M44-3853	Paul Breeden 1 1050 12-22-06	15 +/- 4	6.6 +/- 1.6
M44-3854	Paul Breeden 2 1110 12-22-06	18 +/- 7	6.9 +/- 3.1
M44-3855	Paul Breeden 3 0955 12-22-06	2.8 +/- 3.2	6.7 +/- 2.1
M44-3856	Bonnie Gisler Schley 1 1250 12-22-06	4.4 +/- 3.6	5.3 +/- 2.3

Analyst: Moore/Nixon

Analysis Date: 02-09-06 02-09-06

Method: 900.0

Respectfully Submitted,

Carl F. Crownover, Pres.

URANIUM ENERGY CORPORATION P.O. Box 1329 Kingsville, TX 78364

Report of Analysis

Lab No.	Identification	Gross Alpha Activity pCi/L	Gross Beta Activity pCi/L
M45-014	Elder Abremeit 1140 01-02-07	8.7 +/- 3.6	5.8 +/- 2.5
M45-015	Lewis Bitterly 1 0945 01-02-07	9.7 +/- 3.7	4.8 +/- 2.1
M45-016	Kenneth Liesman 1 0900 01-02-07	4.9 +/- 3.2	5.2 +/- 2.1
M45-017	Lawrence Schrade 1 0900 01-02-07	5.5 +/- 3.5	6.6 +/- 1.9
M45-018	Deanna Wacker 1 1040 01-02-07	6.4 +/- 3.4	6.6 +/- 1.9

Analyst: Moore/Nixon

Analysis Date: Method: 900.0

01-12-07

01-12-07

Respectfully Submitted,

at

Carl F. Crownover, Pres.

URANIUM ENERGY CORPORATION P.O. Box 1329 Kingsville, TX 78364

Report of Analysis

Lab No.	Identification	Gross Alpha Activity pCi/L	Gross Beta Activity pCi/L
M45-027	Harold Becker 1 1005 01-03-07	7.5 +/- 3.6	5.6 +/- 1.8
M45-028	Reta Brown 1 0850 01-03-07	5.1 +/- 3.5	5.4 +/- 2.2
M45-029	W.A. Wimberly 1120 01-03-07	1.7 +/- 2.3	5.2 +/- 2.2
Analyst: Analysis	Moore/Nixon Date:	02-12-07	02-12-07

Method: 900.0

Respectfully Submitted,

Carl F. Crownover, Pres.

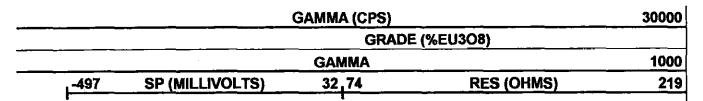
14.0 Proposed Aquifer Exemption

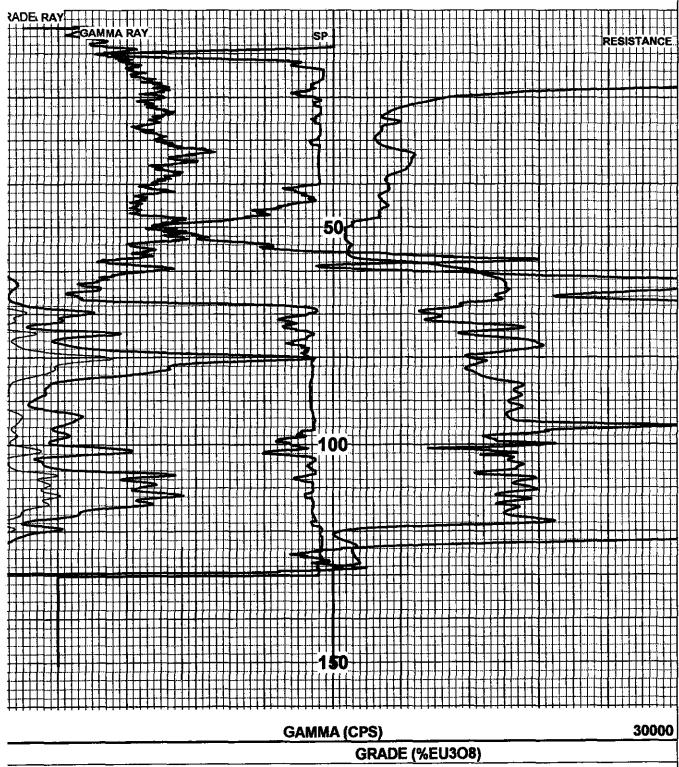
Prior to the start of operations, an Aquifer Exemption must be issued by the U.S. EPA through TCEQ. The federal criteria for exempted aquifers are given in 40 CFR §146.4, and the corresponding TCEQ criteria can be found in 20 TAC §331.13 Exempted Aquifer.

The extent of the aquifer exemption is shown on all of the cross-sections (see Figures 6.8a through 6.13). As shown, the exempted portion would extend from the base of the D Sand to the top of the A Sand. The ore delineation program that UEC is engaged in clearly demonstrates that commercial-grade uranium deposits exist in all four sand units. As cross-sections (6.8 through 6.13) show, each sand unit is confined on the top and the bottom by substantial aquicludes. With regard to overlying and underlying aquifers, please refer to the cross-sections to see that an overlying aquifer does not exist above the A Sand production zone. The cross-sections also illustrate that within the prospective production areas, overlying non-production zone aquifers, do not exist. The reason for this is that all four sand units contain commercial amounts of uranium. The deepest production zone (D-Sand) has a substantial confining layer between it and deeper aquifers. This confining layer exists throughout the permit area (see cross-sections). At this stage of project development, the lateral extent of the aquifer exemption area would encompass all of the production areas shown on Figure 1.3 Project Map. Because project development is ongoing, additional aquifer exemption areas will be needed in the permit area.

Appendix B Well Logs/Completion Reports

Well Logs

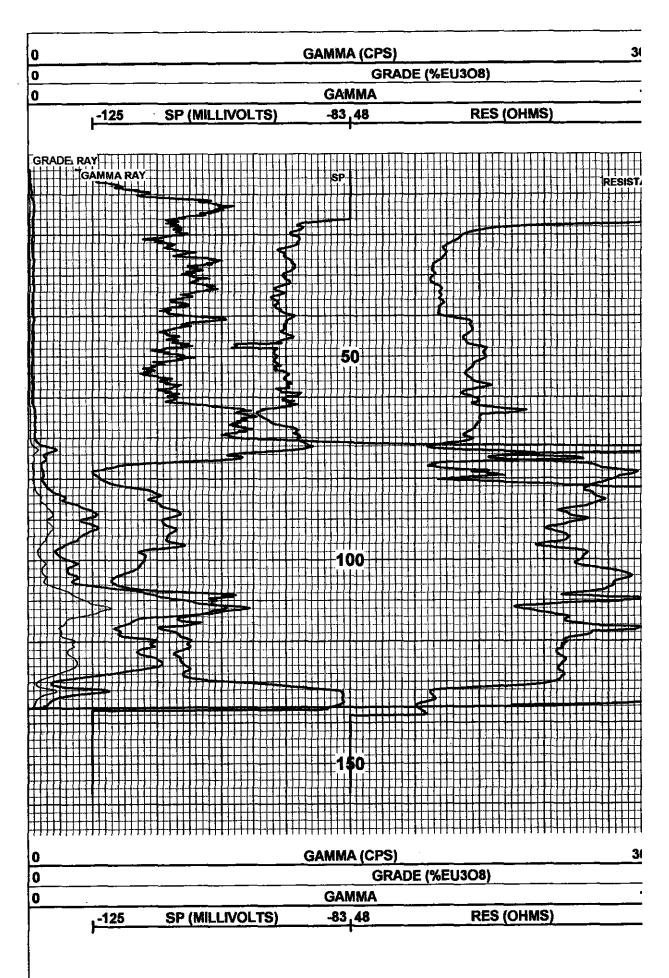




		GAMMA (CPS)		30000
		GRADE	(%EU3O8)	
		GAMMA		1000
,-497	SP (MILLIVOLTS)	32,74	RES (OHMS)	219

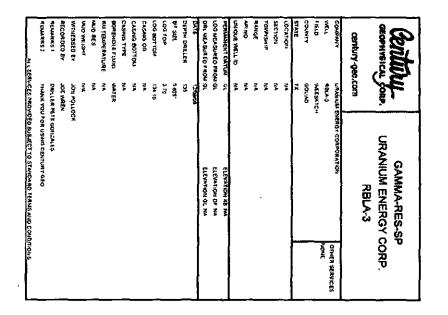
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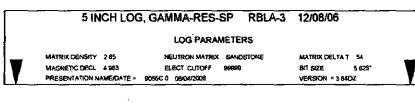
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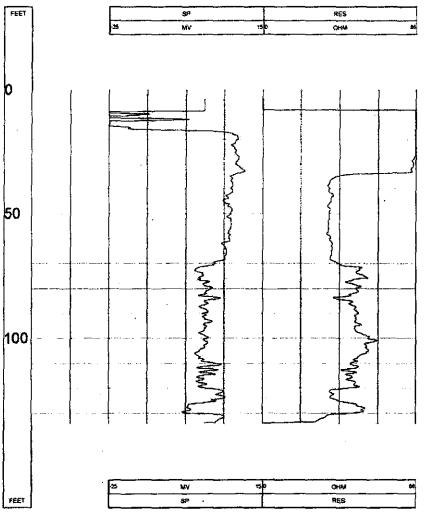


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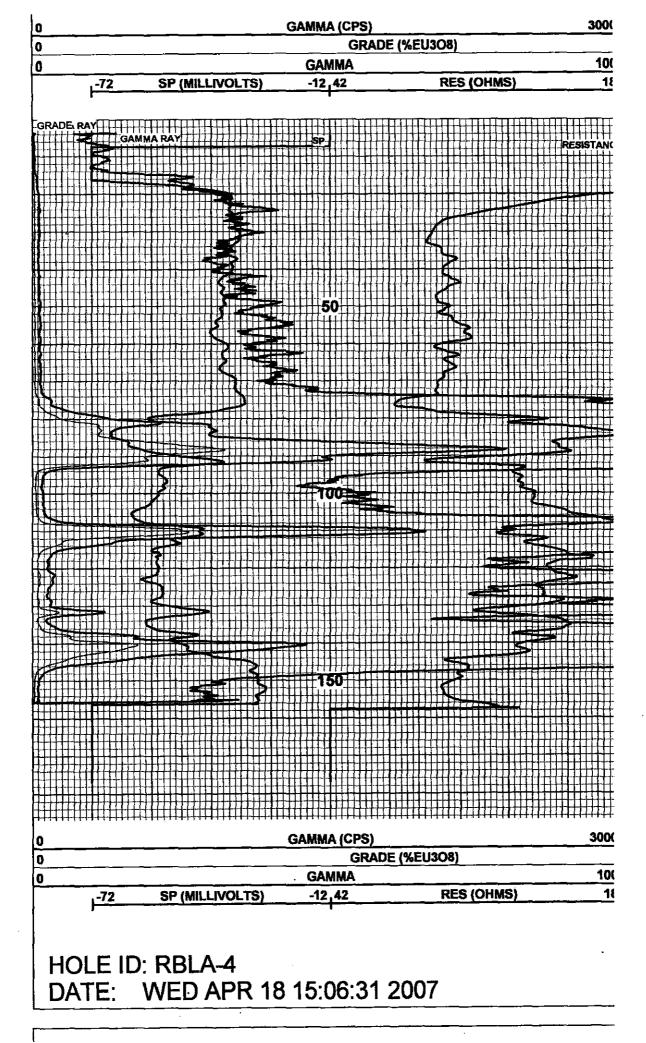
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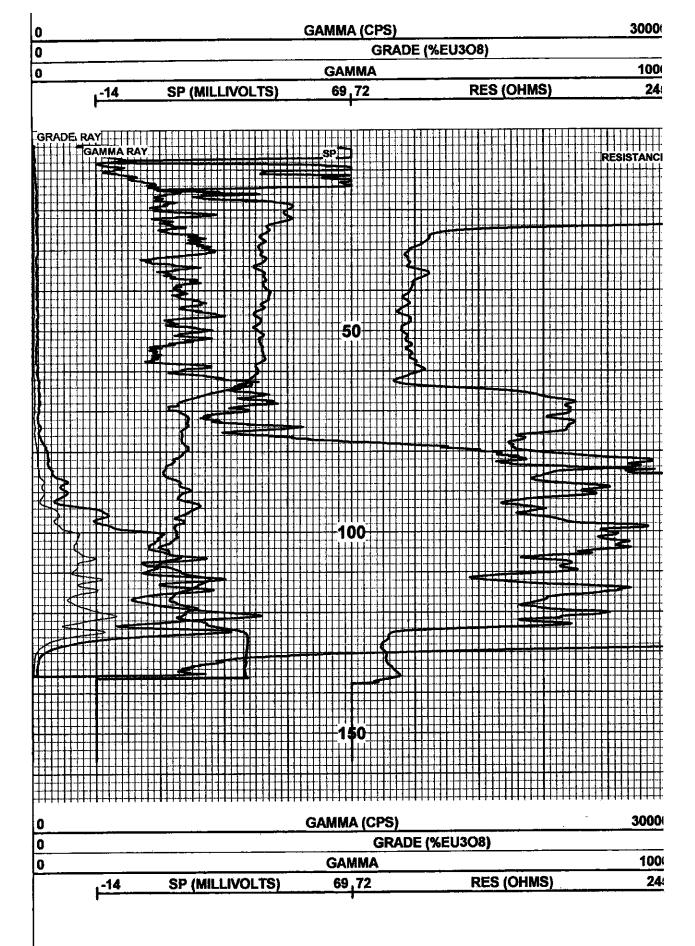






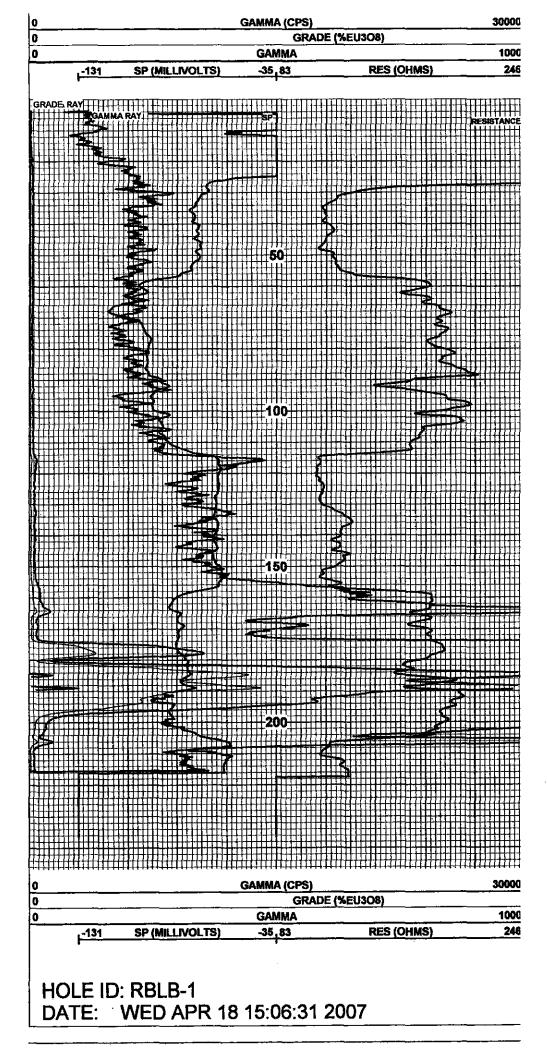
5 INCH LOG, GAMMA-RES-SP RBLA-3 12/08/08 LOG PARAMETERS MATRIX DENSITY 2-95 NEUTRON MATRIX SANDSTONE MATRIX DELYA-T 54 MAGNETIC DECL. A 993 ELECT CUTOFF 99999 BT 527E 5-925* PRESENTATION NAMEDATE = 9055C 0 08042008 VGRSION -2-3-6402





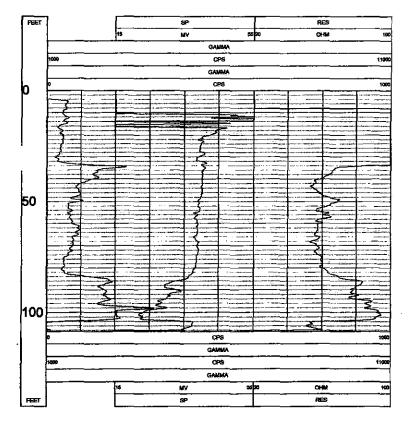
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DATE: THU MAY 17 17:09:11 2007



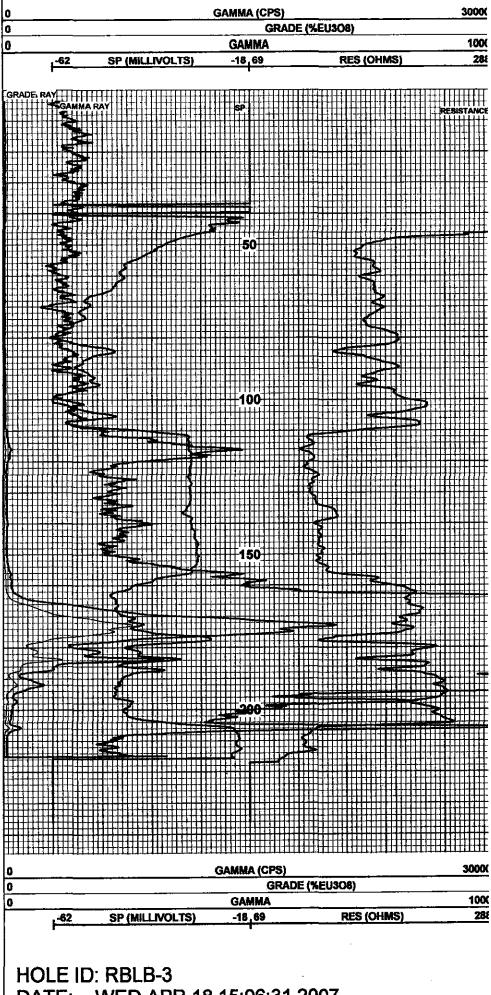
ALL SERVICES PROYOUT	REMARKE 2 THANK YOU FO		9	ANYSTO SAMP AS DESIGNAM	AUR THORSAN SUM	NEO PER SA	THE TEMPERATURE NA	SORBHOLE FULLD WATER	CASHG TYPE NA	CASHE BOTTOM NA	CASTNG OD #A	LOG BOTTOM .: SEE SO	LOG TOP: 2.80	BIT 8026 5.825	DENH SETTING 110	POTENTE: STAND	DRI MEASURED FROM SI	TOO MEYBRIED LACKET	TO WILLY CANDANATED	UNIQUE WELL ED. #A	ARINO. YA	NAME NA	TOWNSHIP MA	SECTION NA	LOCATION #A	SIATE	COUNTY SQUAD	-	COMPANY LINE THE PROPERTY THE	century-geo,com	GEOPHYSICAL GORD.	Central -
TO STANDARD TERMS AND CONDITIONS	THANK YOU FOR LINEAR CENTURY SEC	QCHZ4L66															ELEVATION BL NA	ELEVATION OF SIA	ELEVATION AS MA									70.2	LINEWAY CONTONATION	1	URANIUM ENERGY CORP.	GAMMA-RES-SP



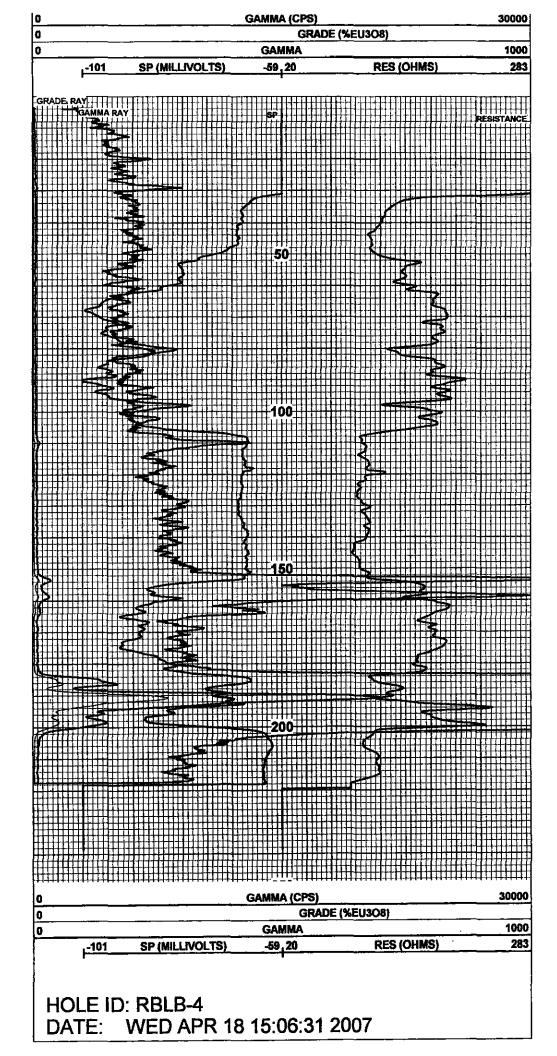


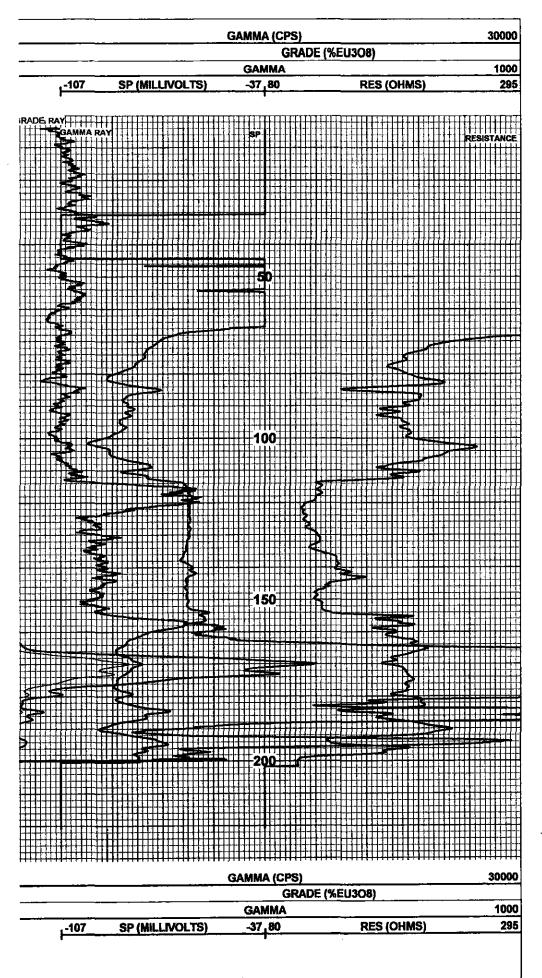
5 INCH LOG, GAMMA-RES-SP RBLB-2 12/13/06 LOG PARAMETERS MATRIX DENSITY: 2.85 NEUTRON MATRIX: SANDSTONE MATRIX DELTAT: 54 MAGNETIC DECL: 4,865 ELECT. CUTCHF : 99869 87 SIZE : 5,825 PRESENTATION NAMEDIATE = 90860,0 0004/2008 VERSION = 3,840Z

	TOOL 9055C SERAL NUM		icin Isiaa				
	DATE	TIME	SEMSOR	St/	ANDARD	, RB	SPONSE
	Apr24,05	14:50:12	GANINIA	Default	(CPS)	Default	(CPS)
	Apr/24,05	14:50:12	GAMMA	Default	icesi icesi	Defmik	jcps
	Apr/24,06	14:50:12	POROSITY	Default	icesi		
,	Apr24,08	14:59:12	RES	Dofesti	iCPSI	Default	
	Apr24,08	14:50:12	R69	Default	icesi icesi	Default	CPS
	Apr24,06	14:50:12	87	Default	įcesį	Defect	CPS
	Apr24.08	14:50:12	&P	Default	icesi	Default	CPS
5	Apr 24,08	14:50:12	NELITRON	Default	icesi icesi	Default	[CPS
	Aek24.05	1459:12	NEUTRON	Default	(CPS)	Default	[CPS
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	Apr24,06	14:59:12	TEMP	Default	icesi	Default	ICPS



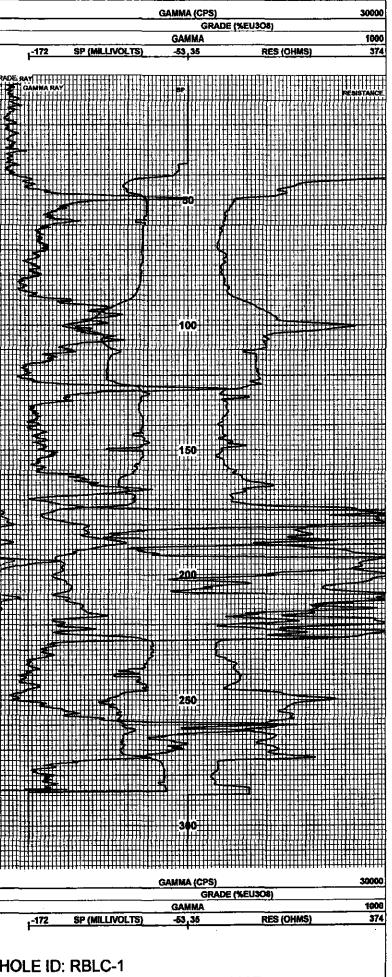
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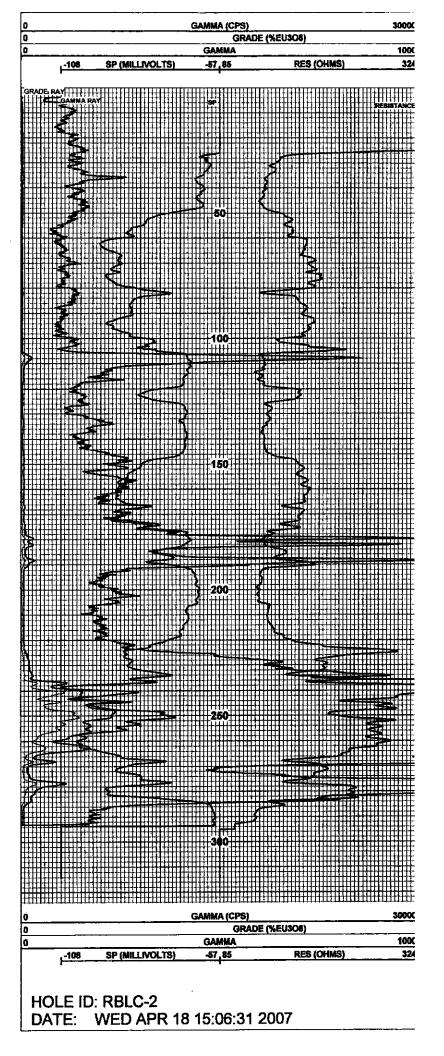
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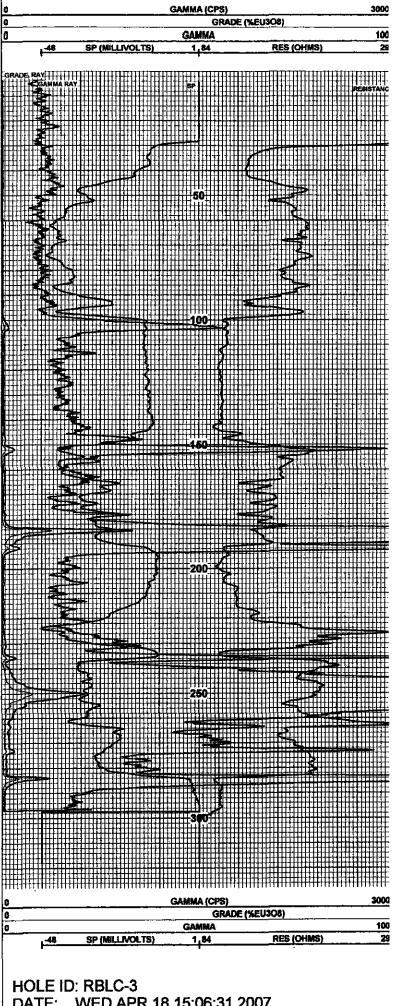
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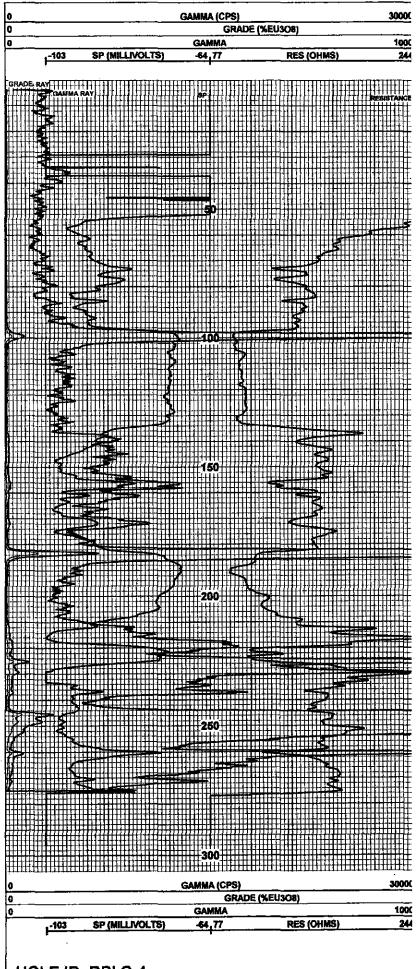
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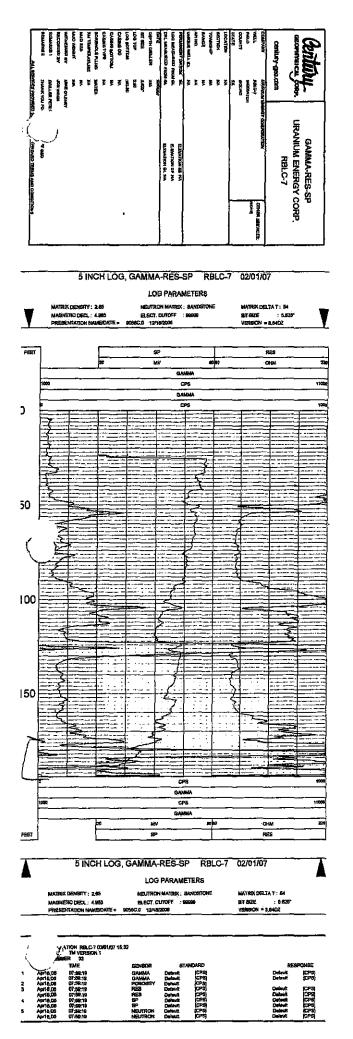


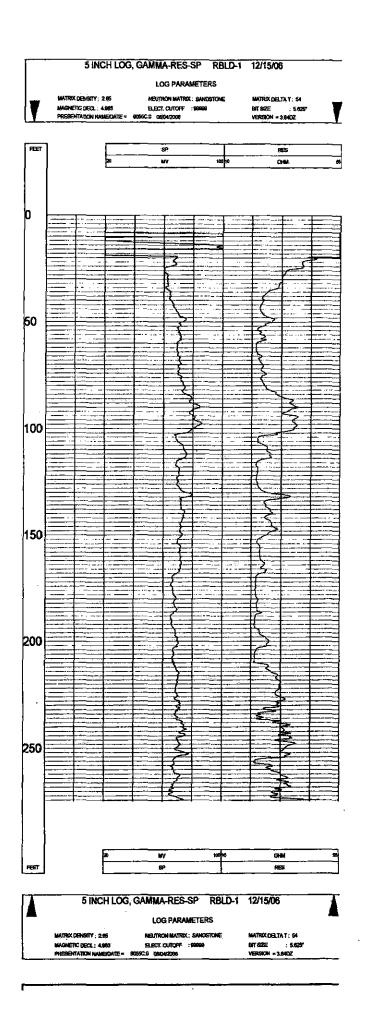
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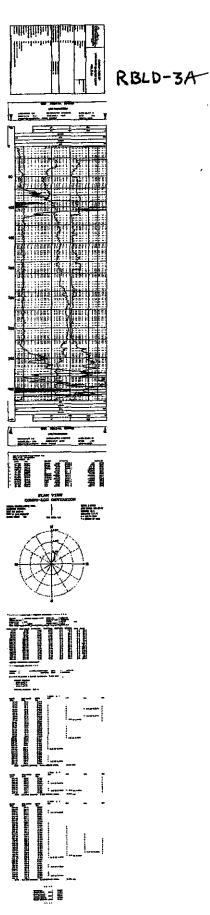
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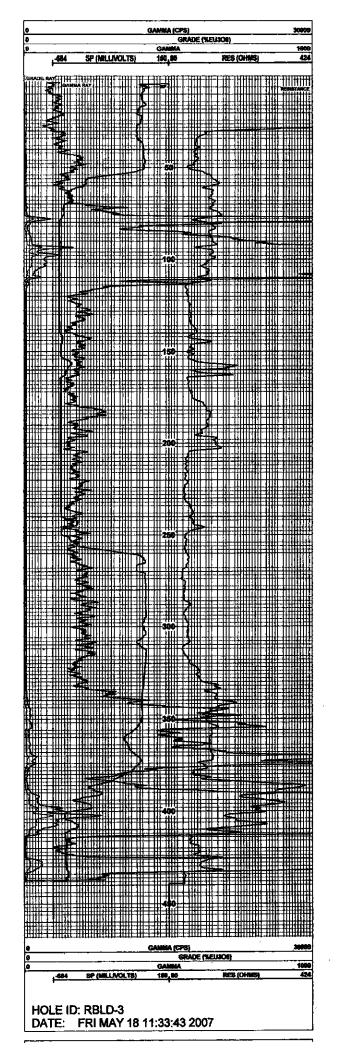
DATE: WED APR 18 15:06:31 2007

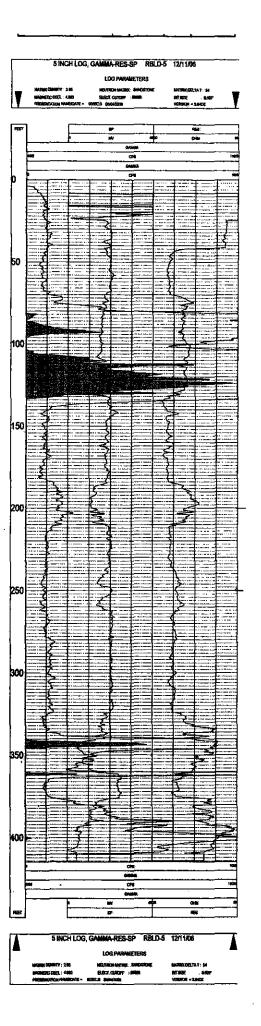


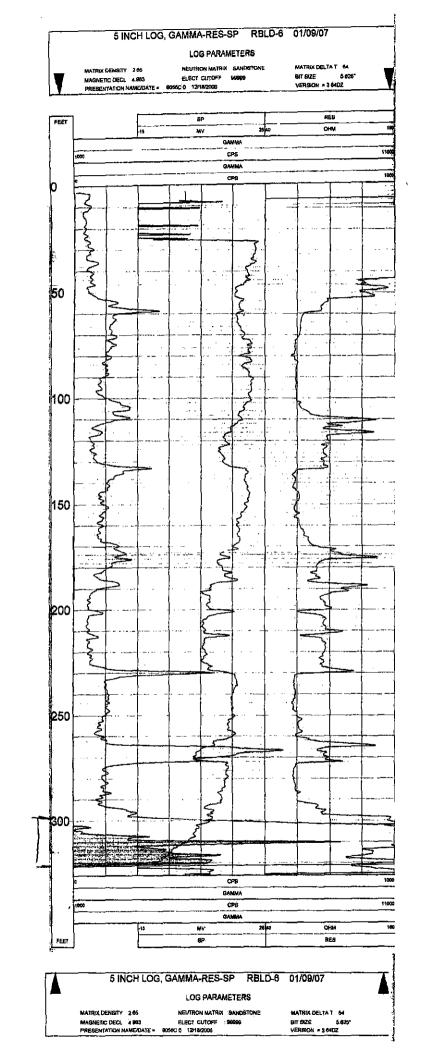


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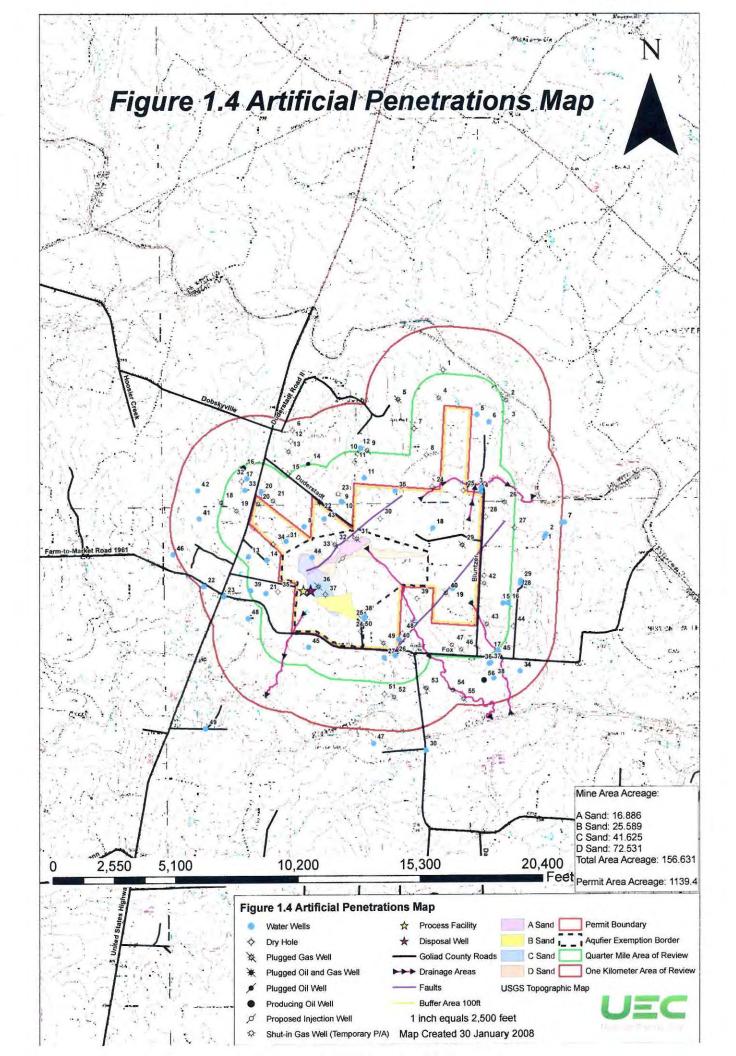


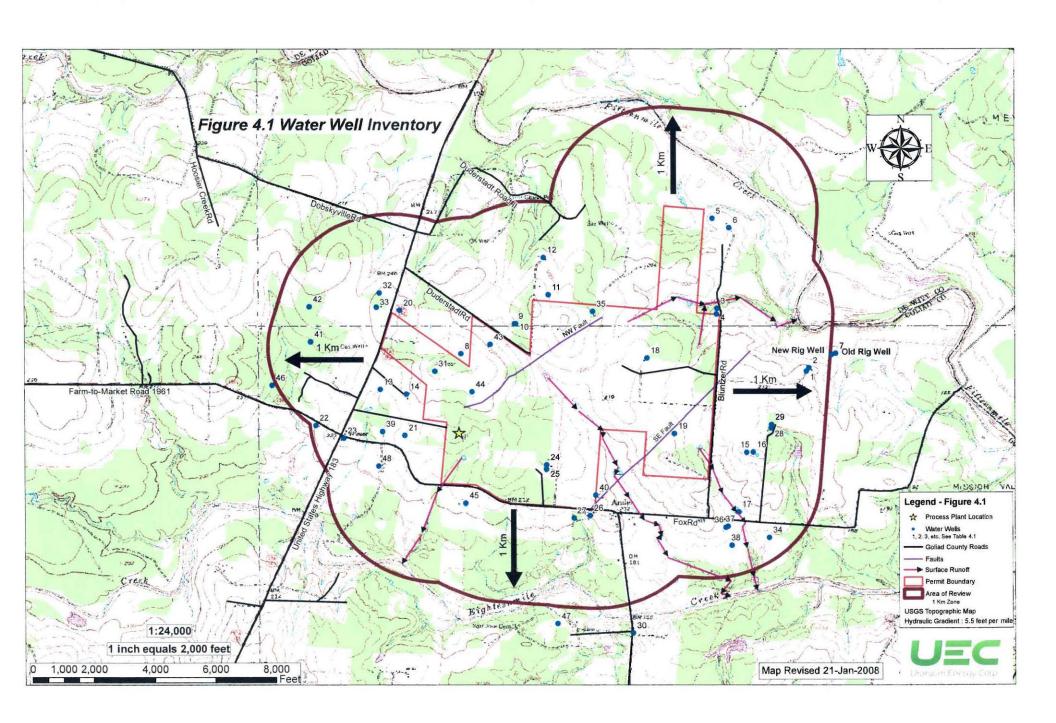


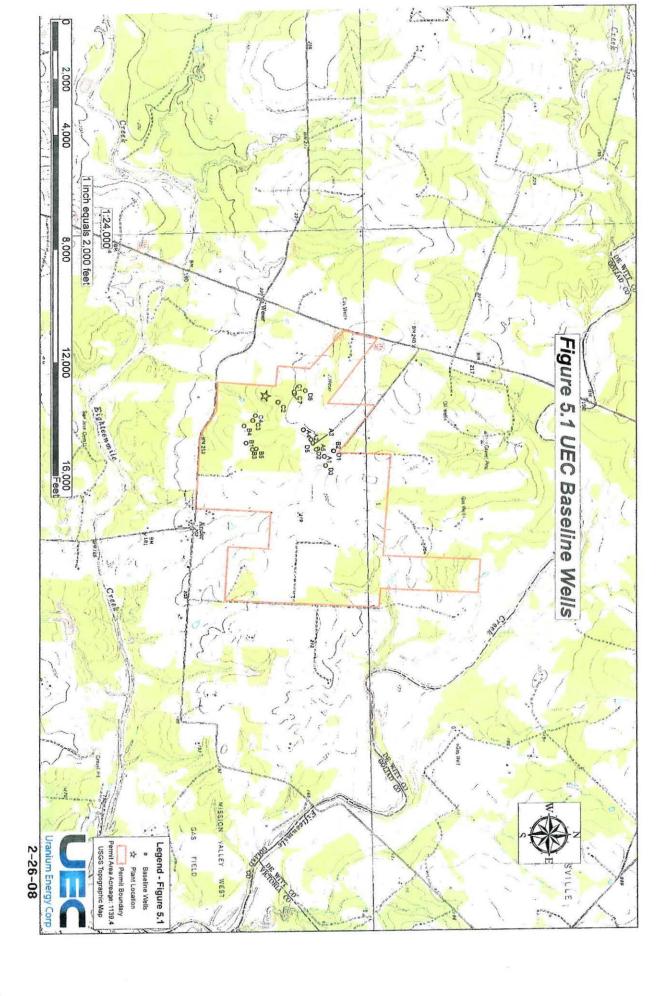


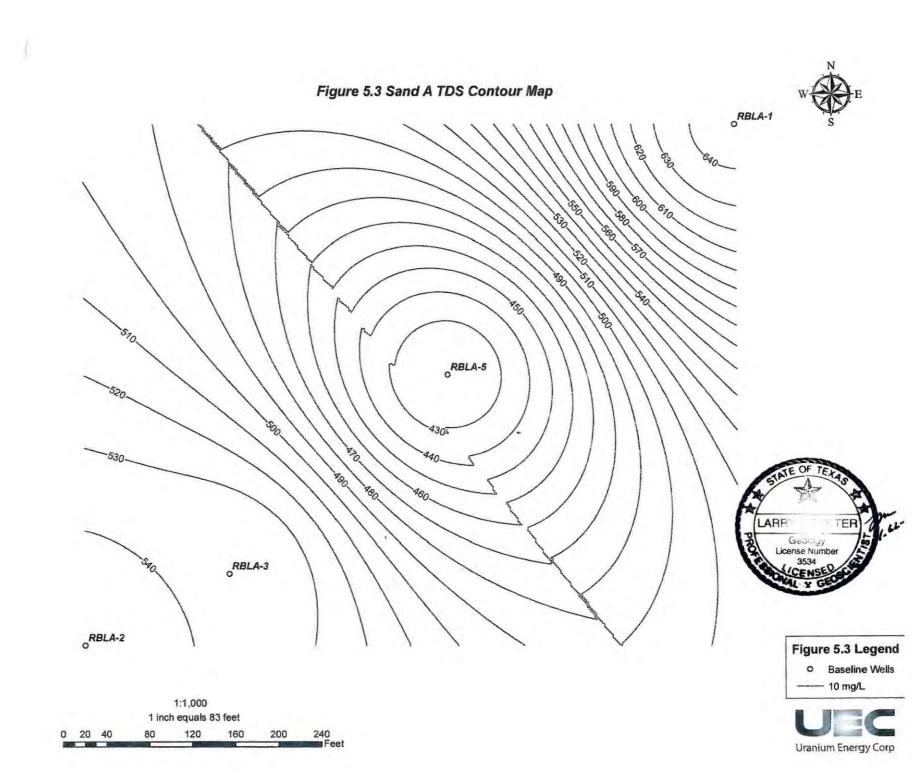


Appendix C Oversize Maps and Figures









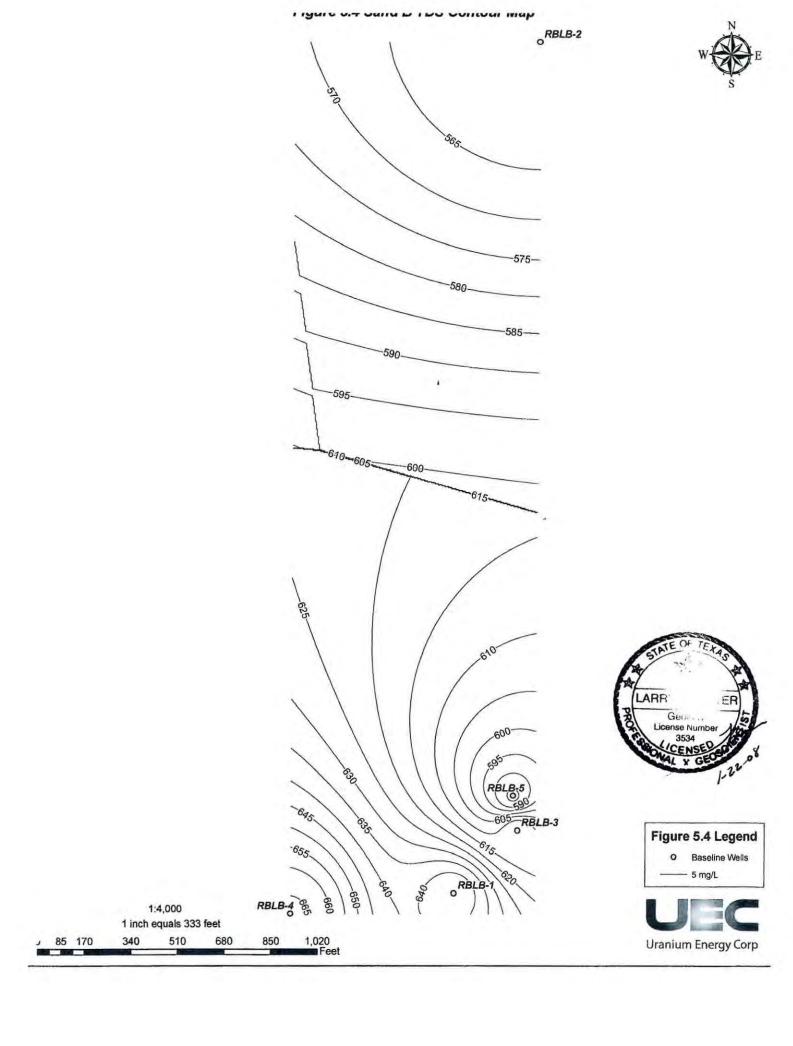
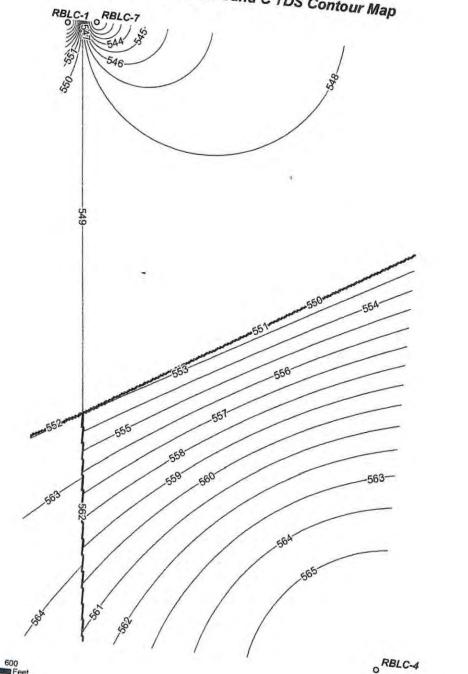


Figure 5.5 Sand C TDS Contour Map



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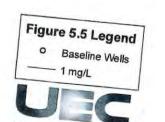
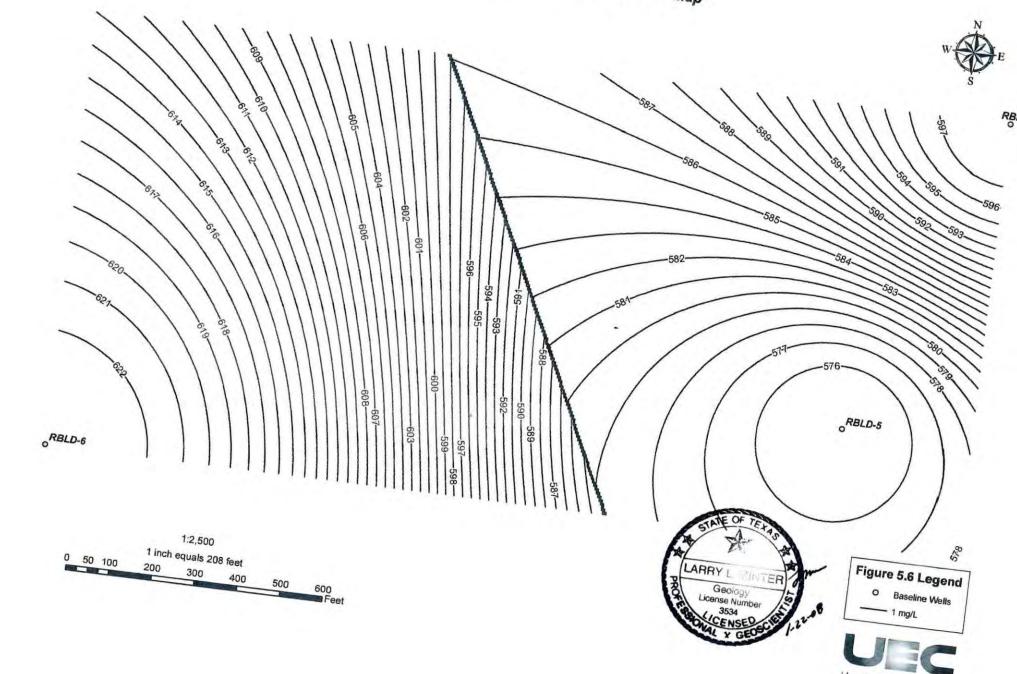
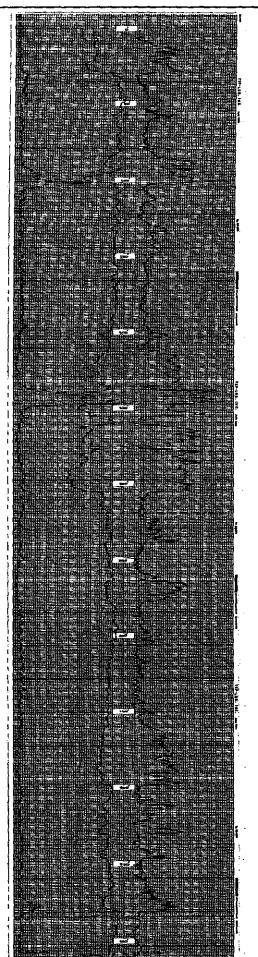


Figure 5.6 Sand D TDS Contour Map



Appendix D Cross-Section Logs

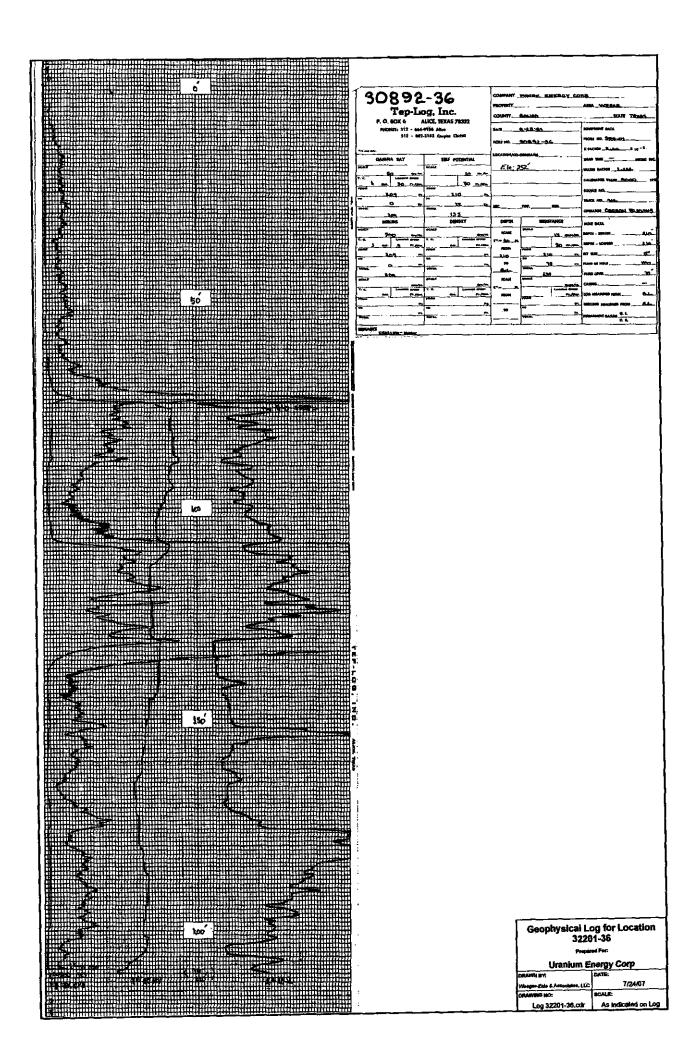
							
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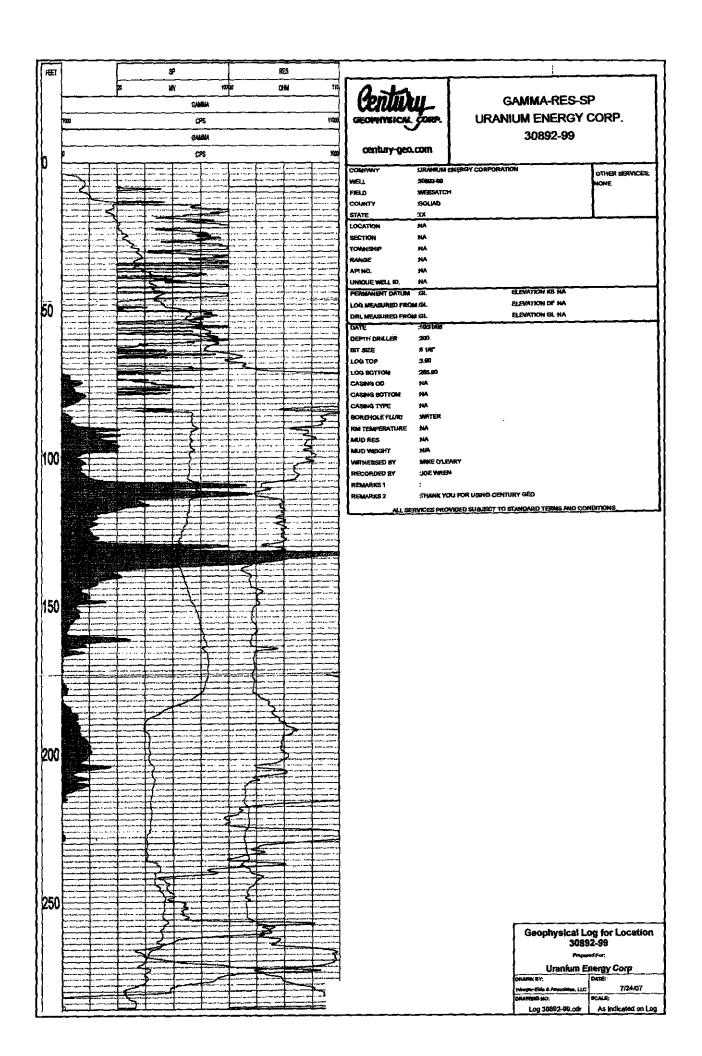


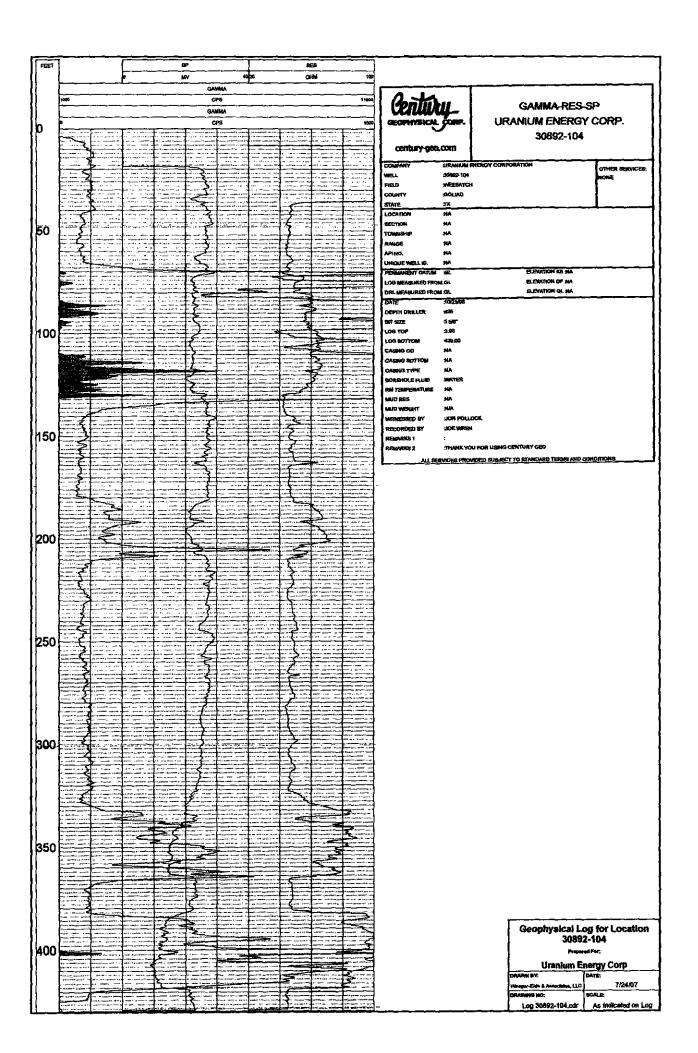
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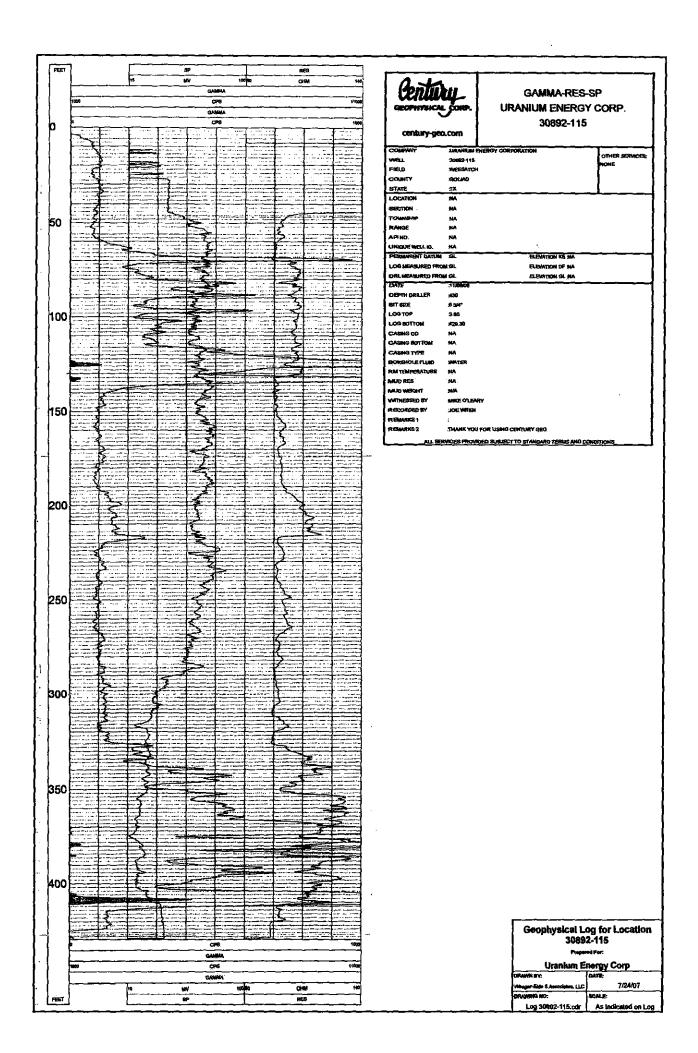
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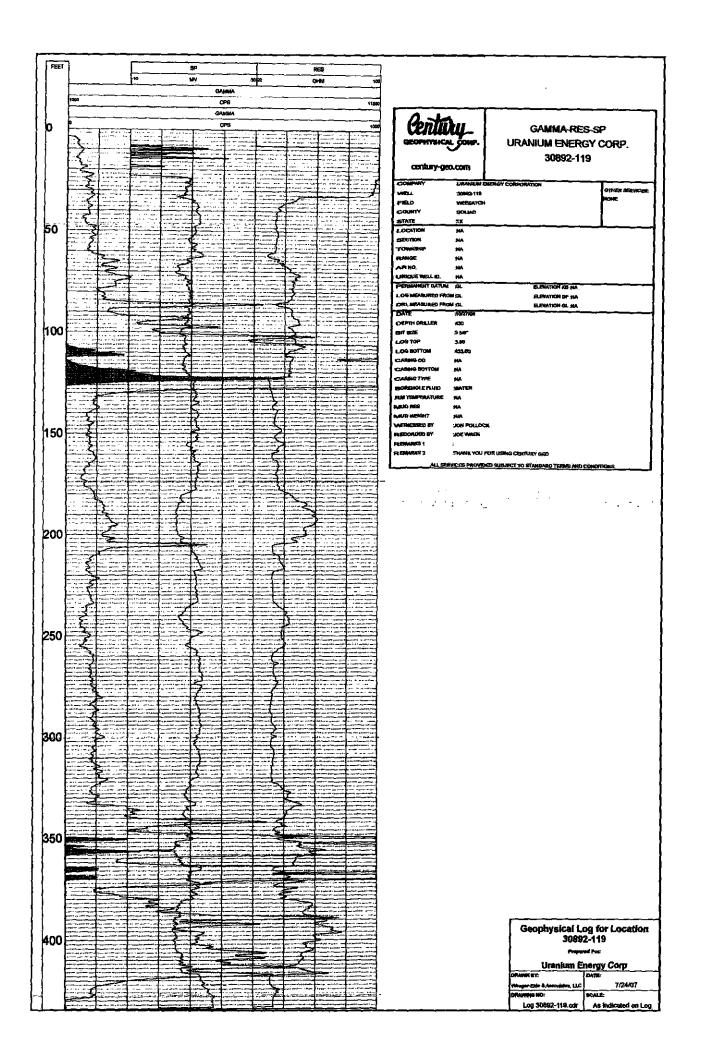
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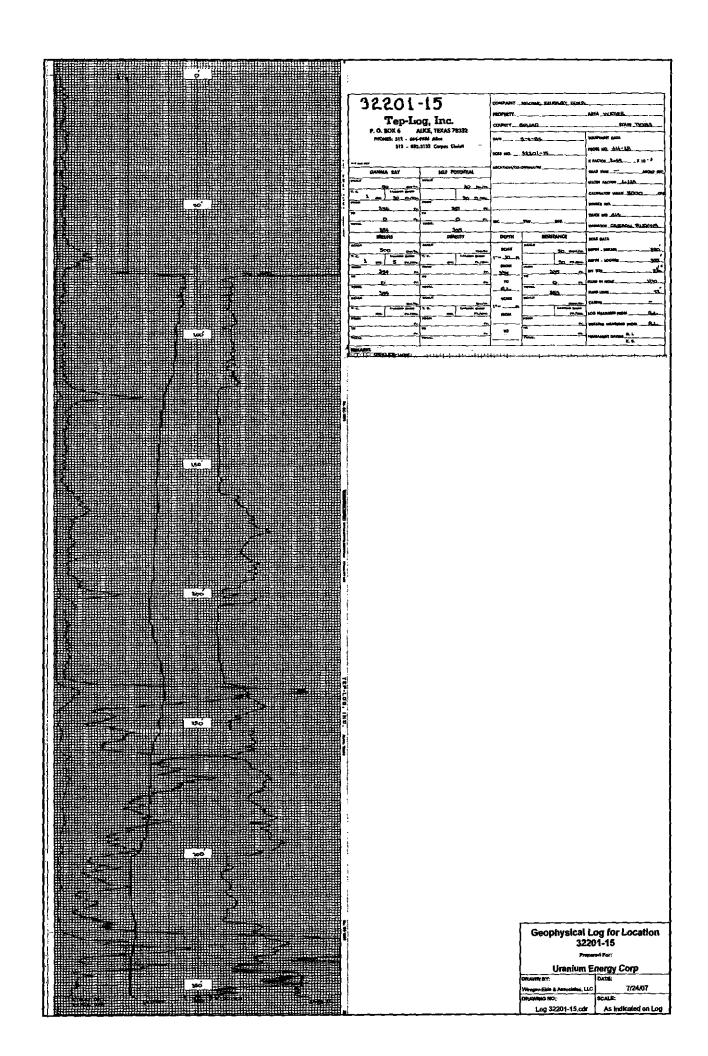


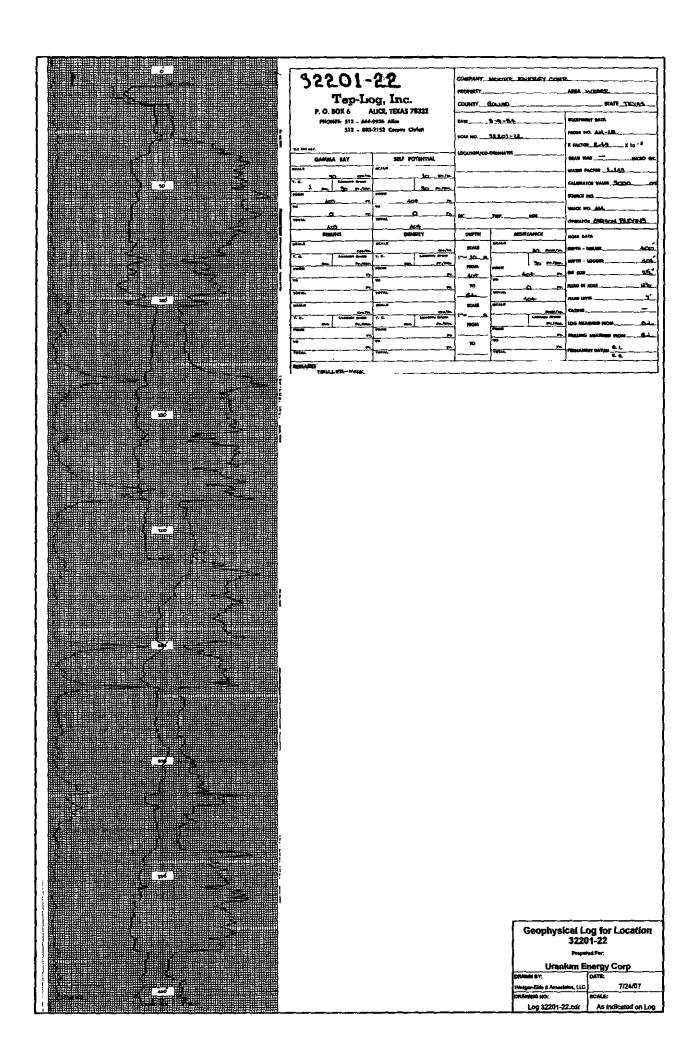


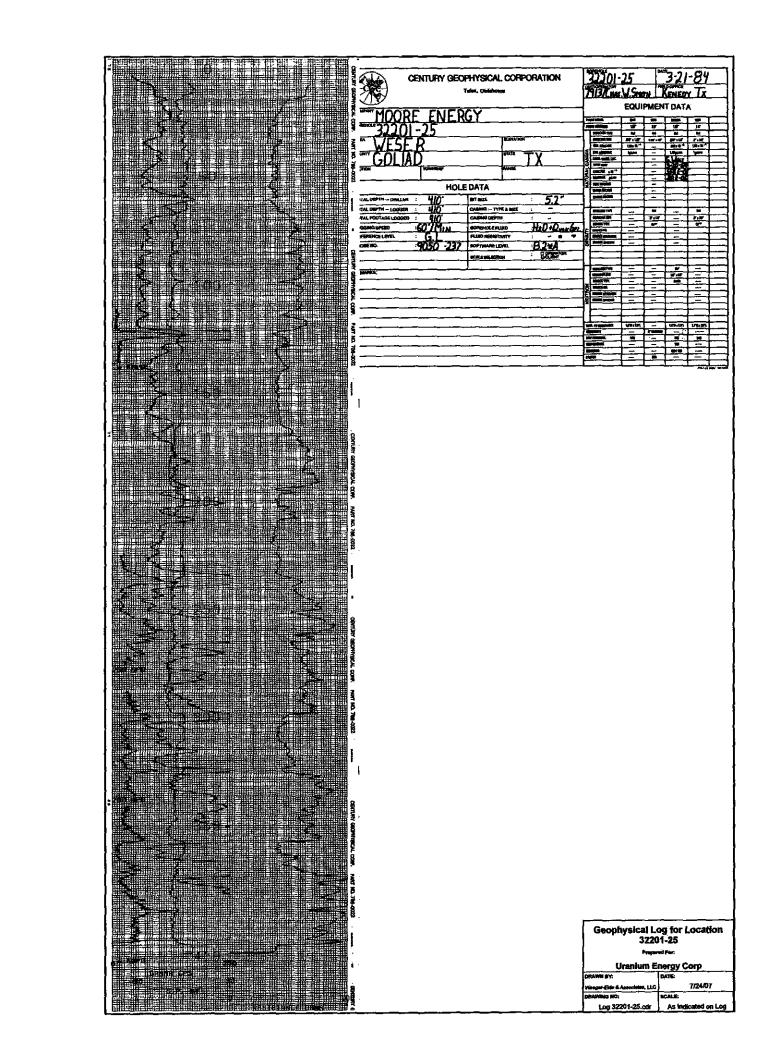


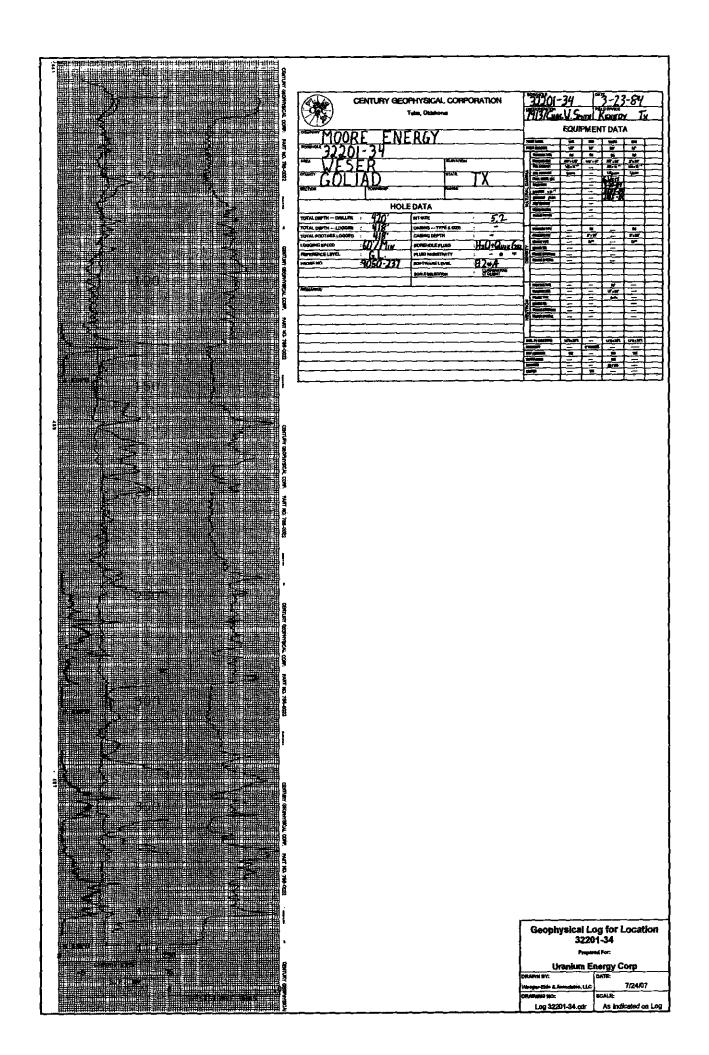


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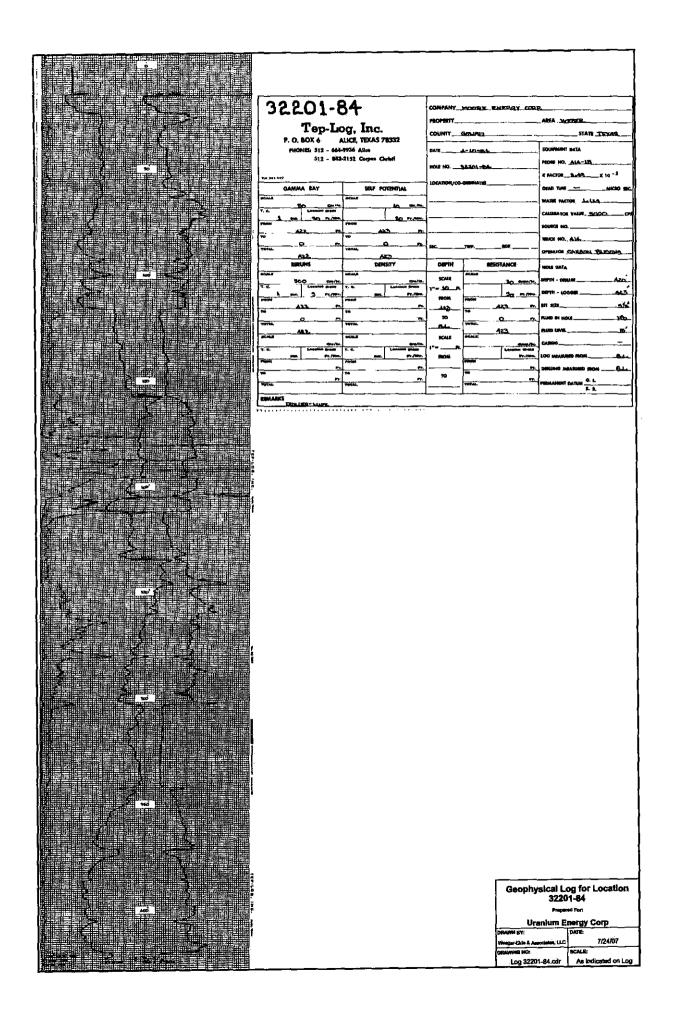


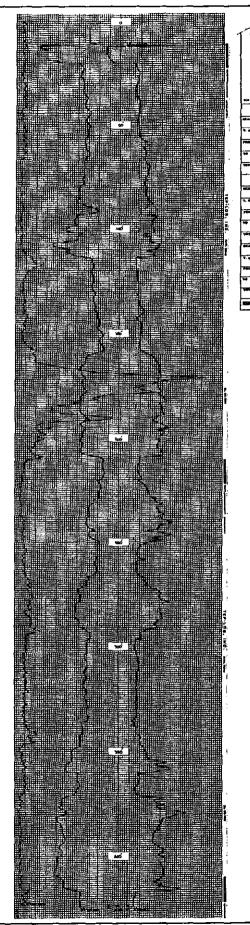




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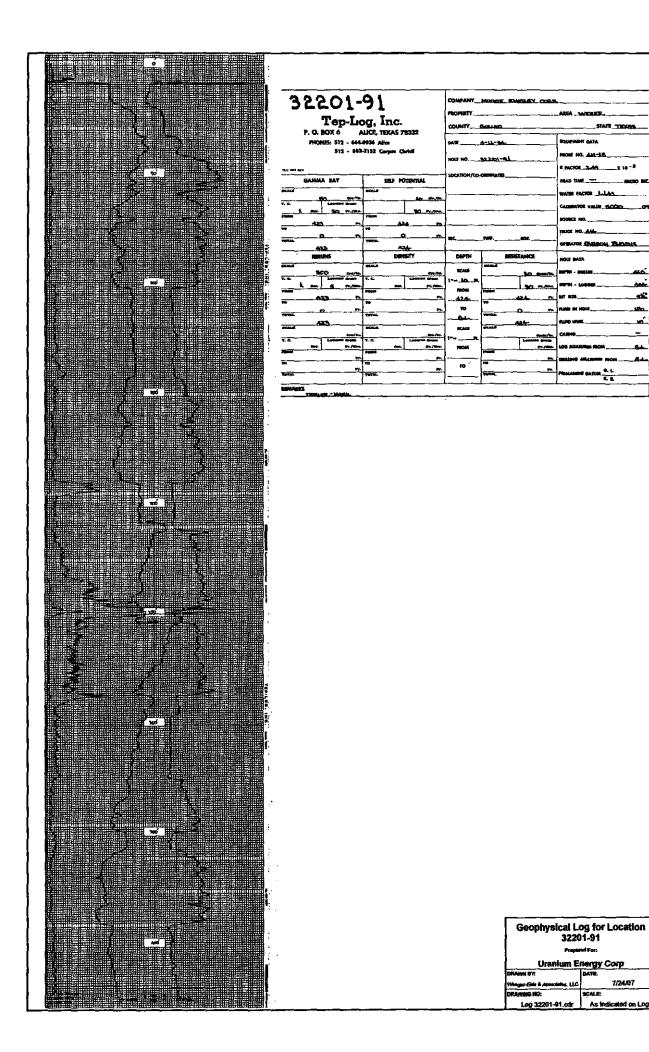
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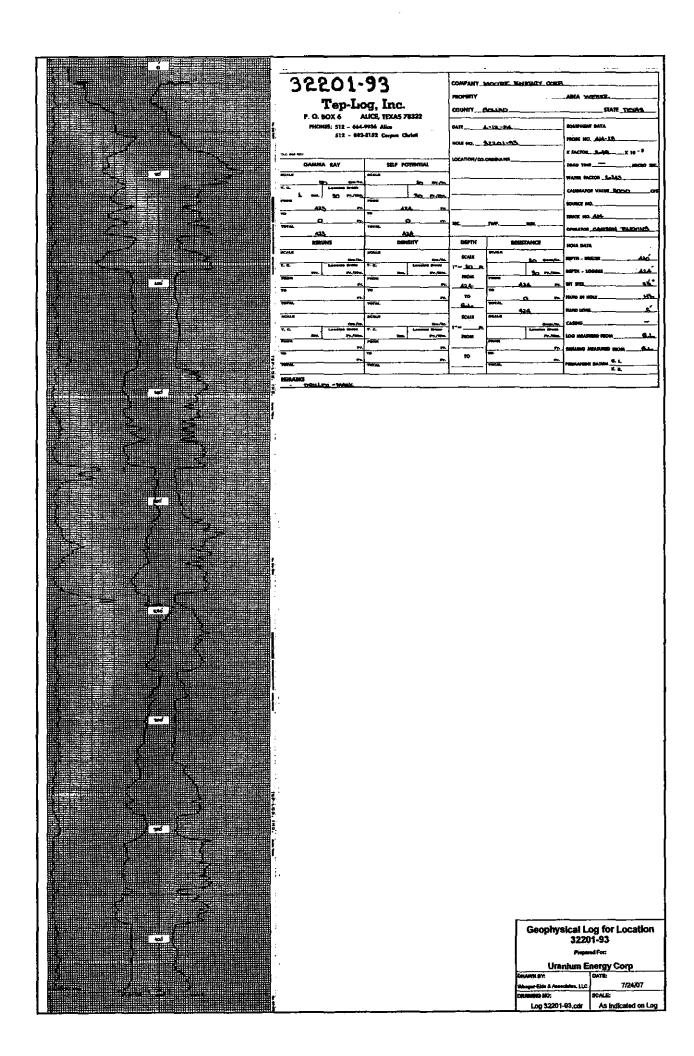
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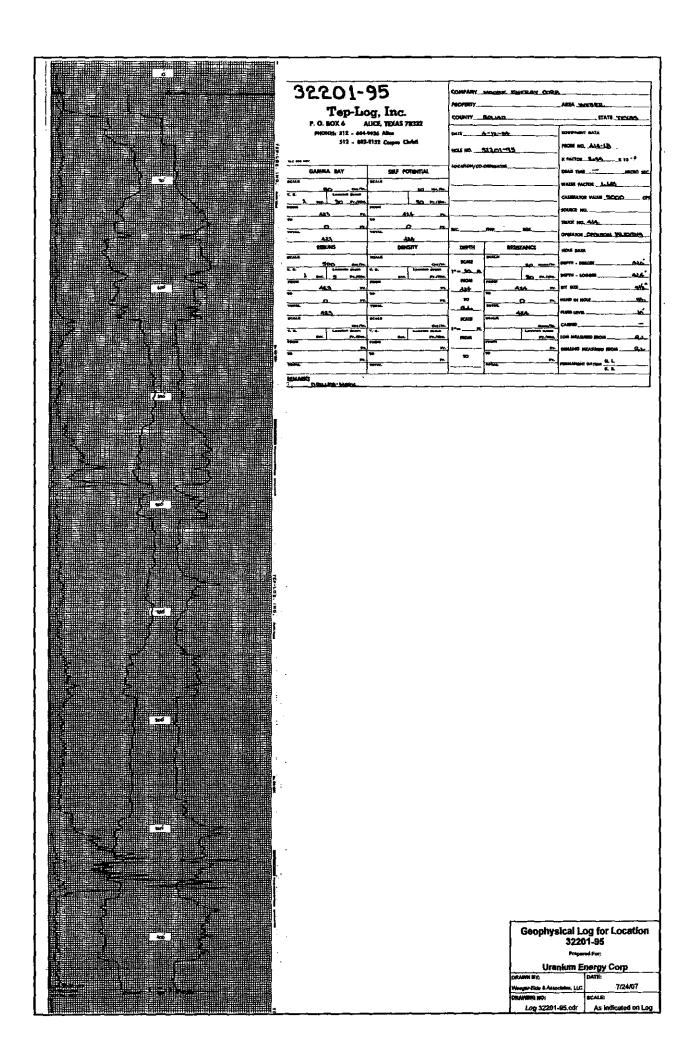
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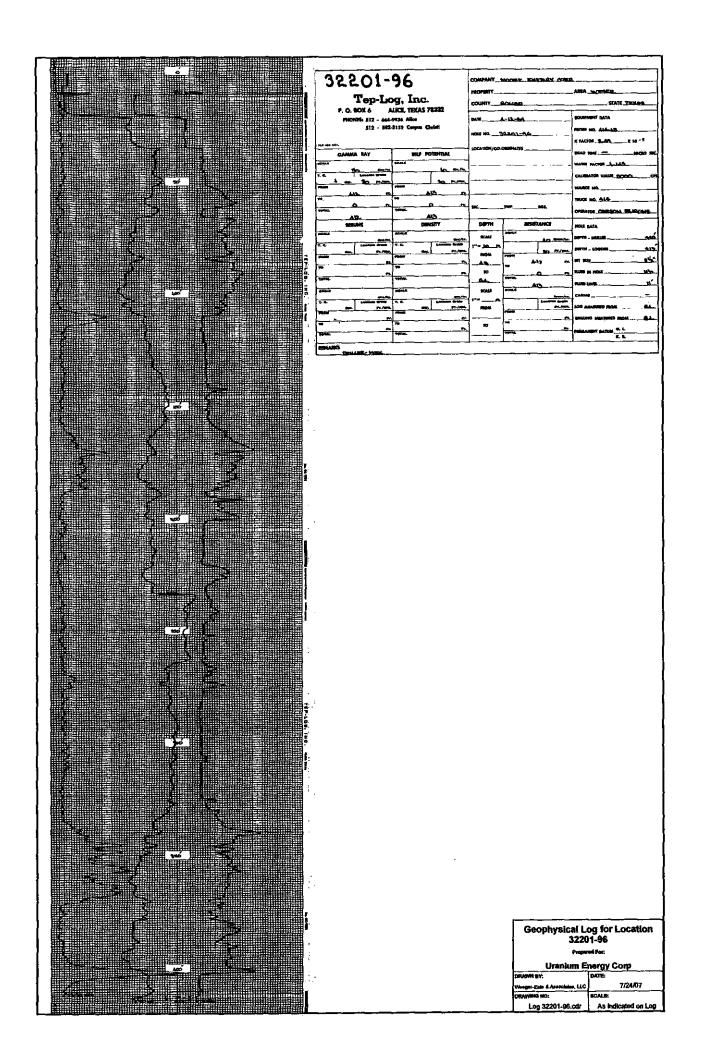
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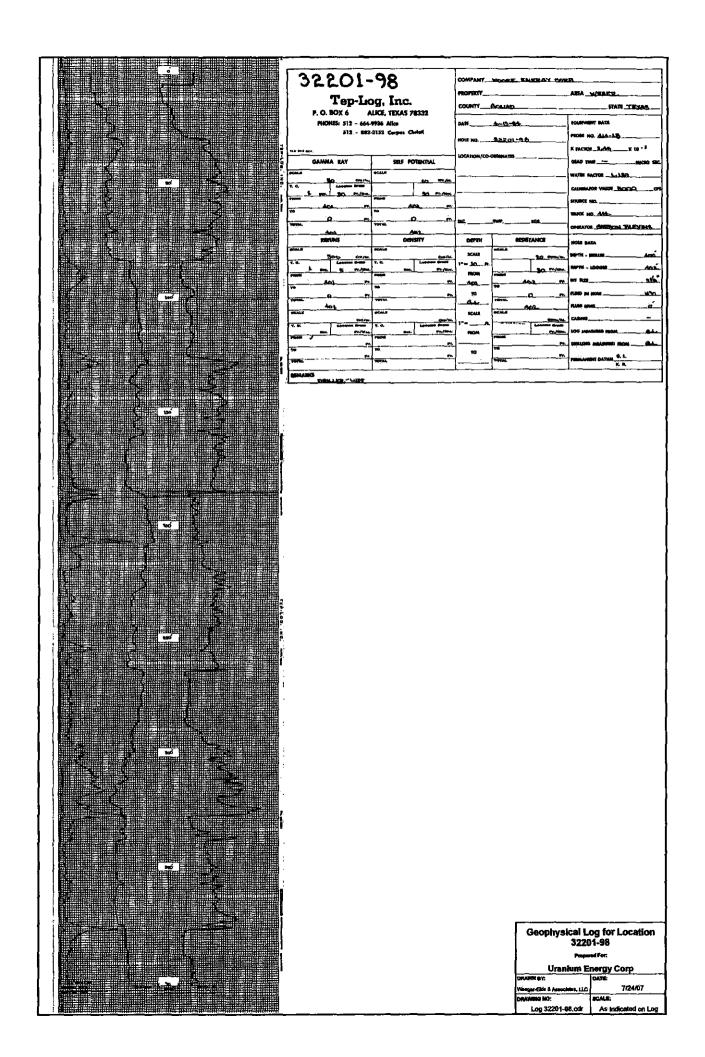
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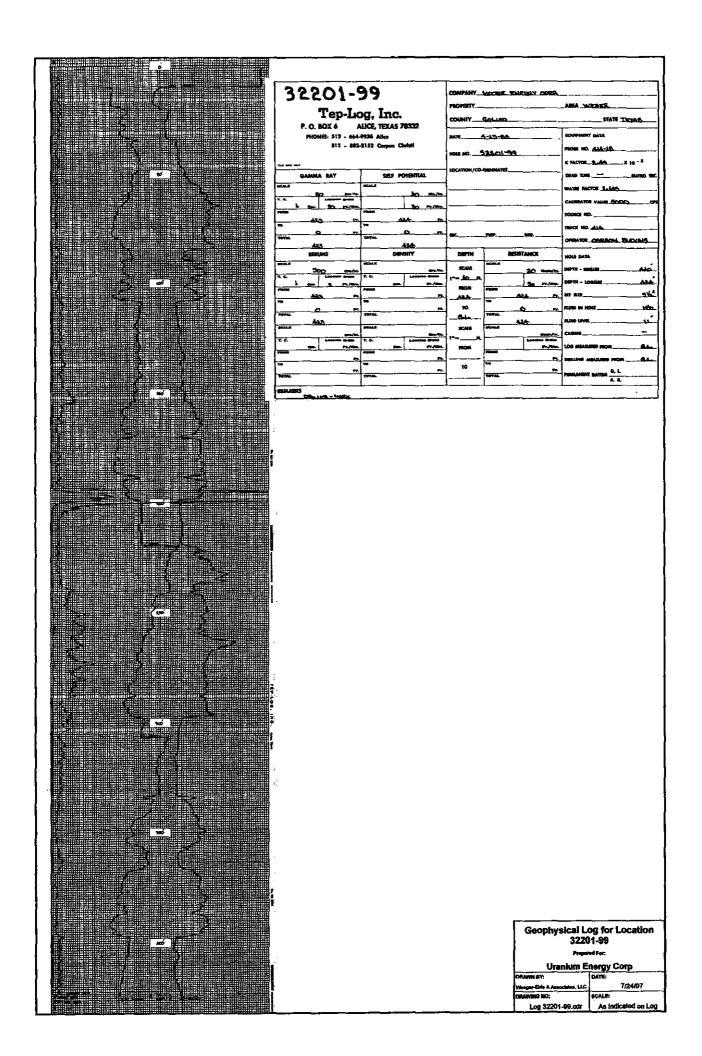


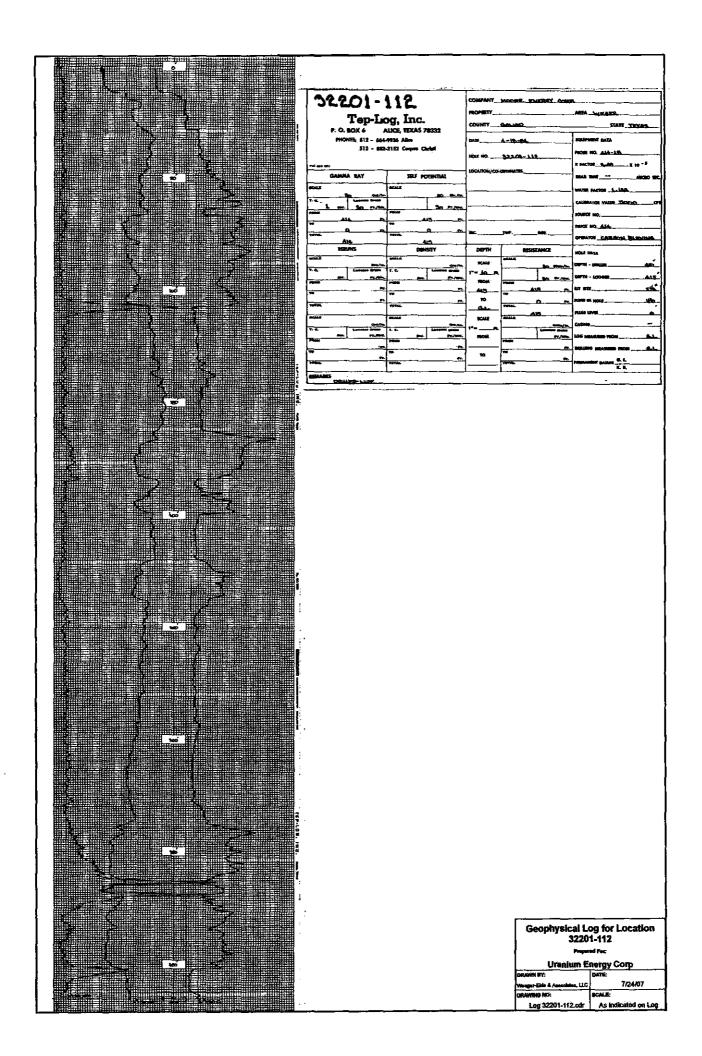


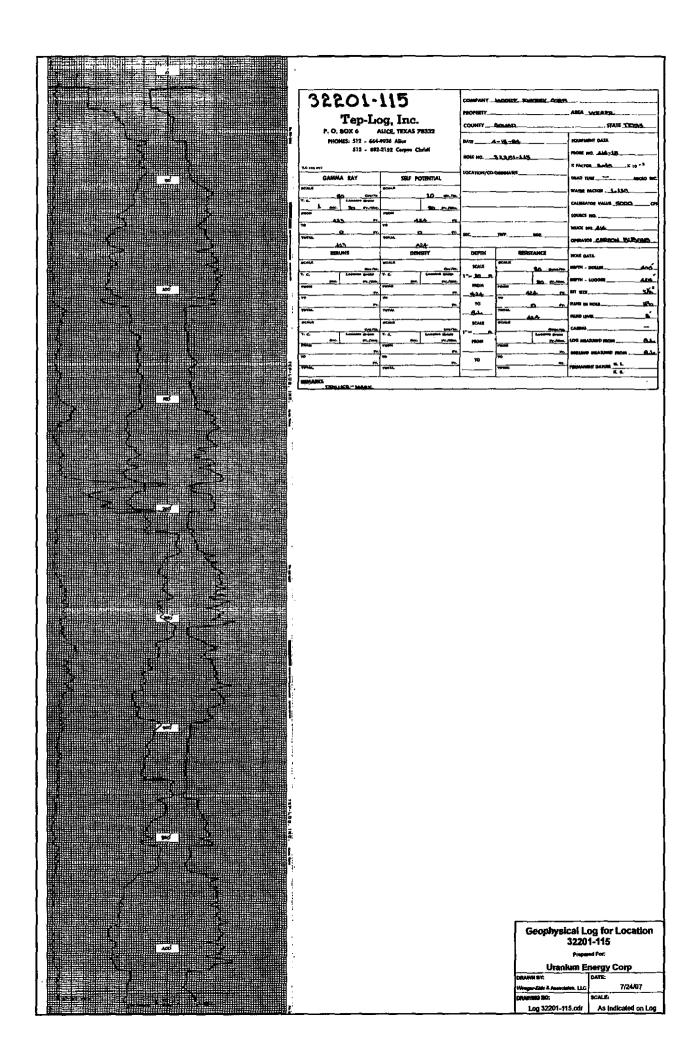


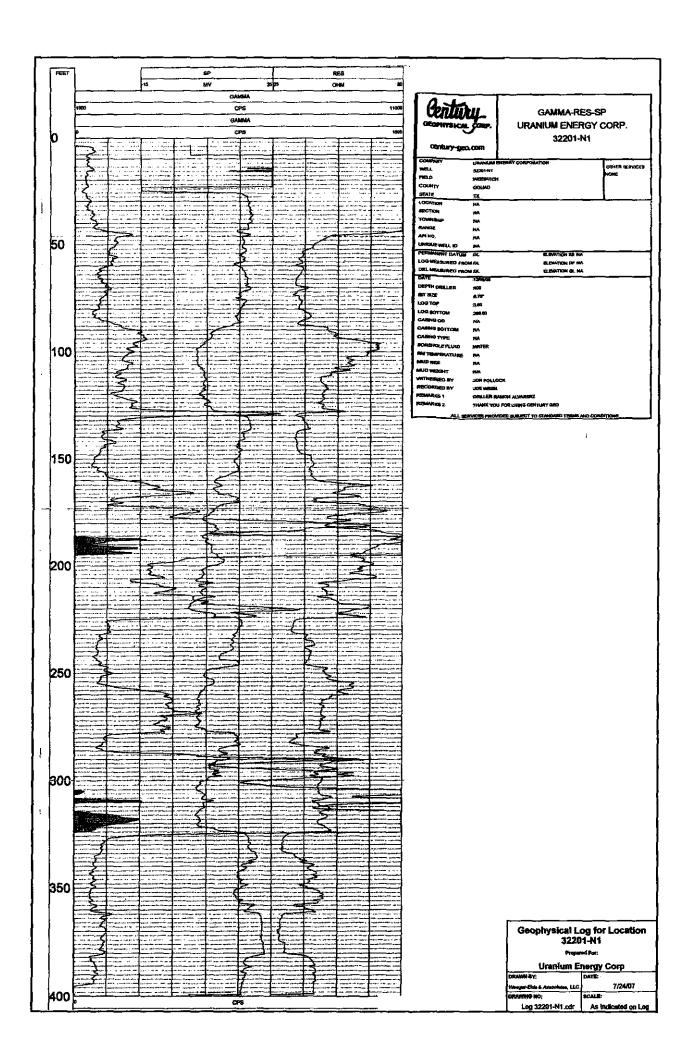


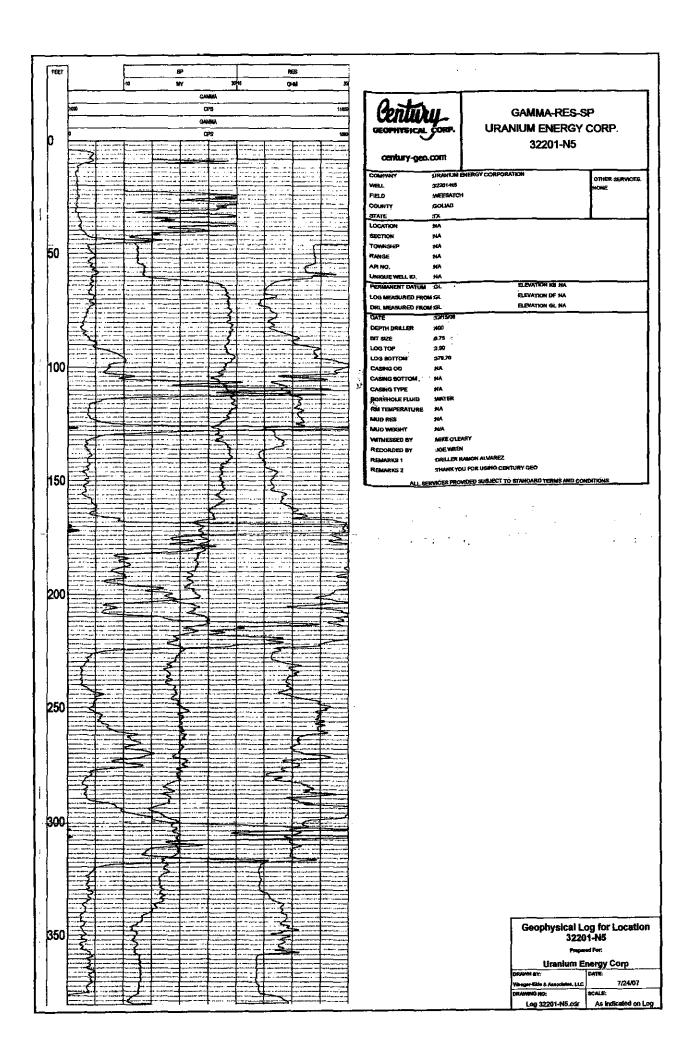


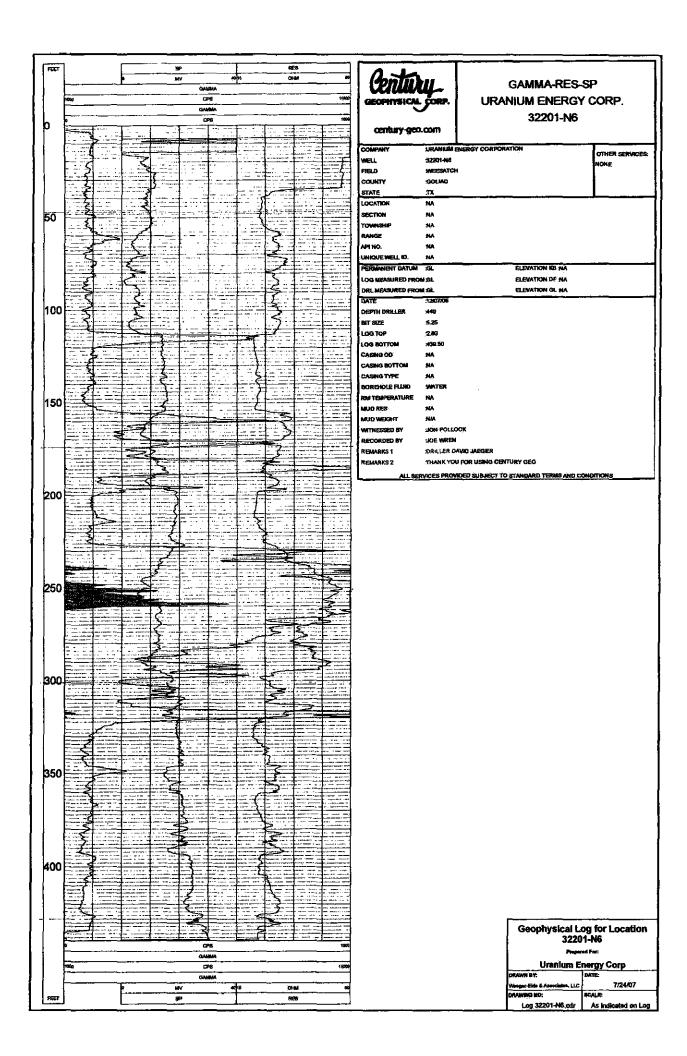


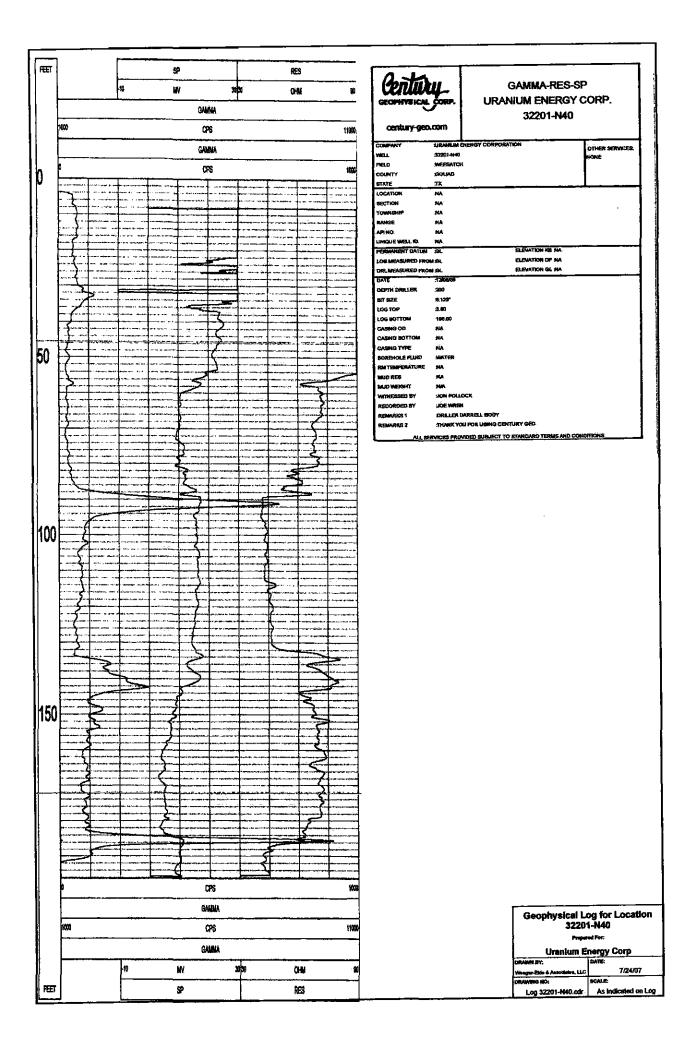


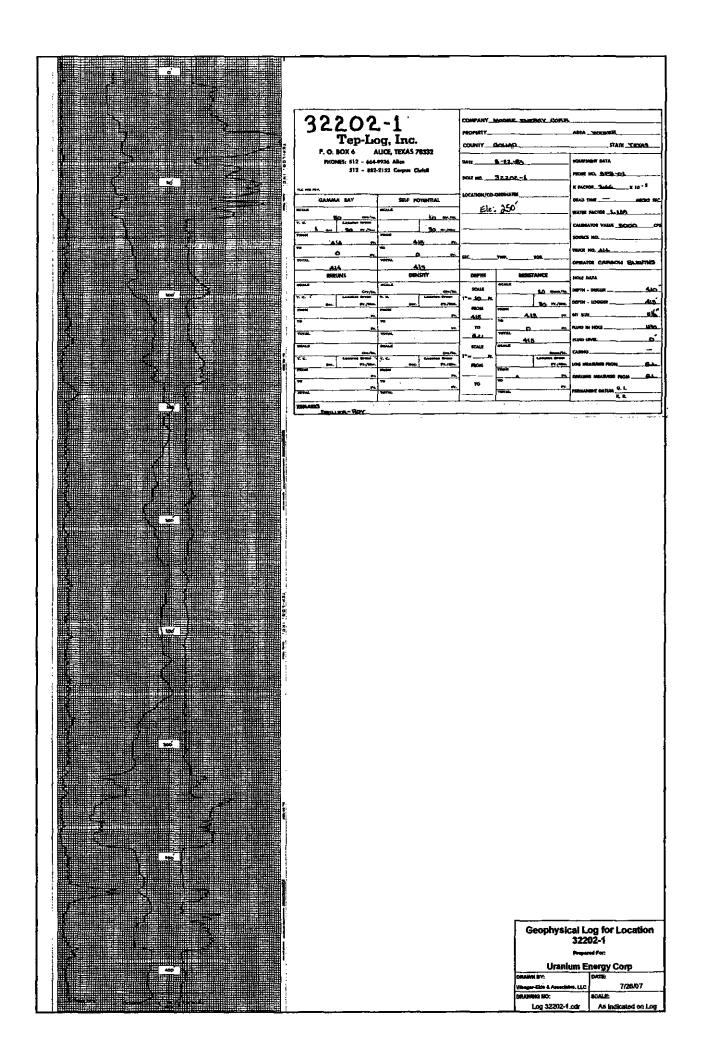


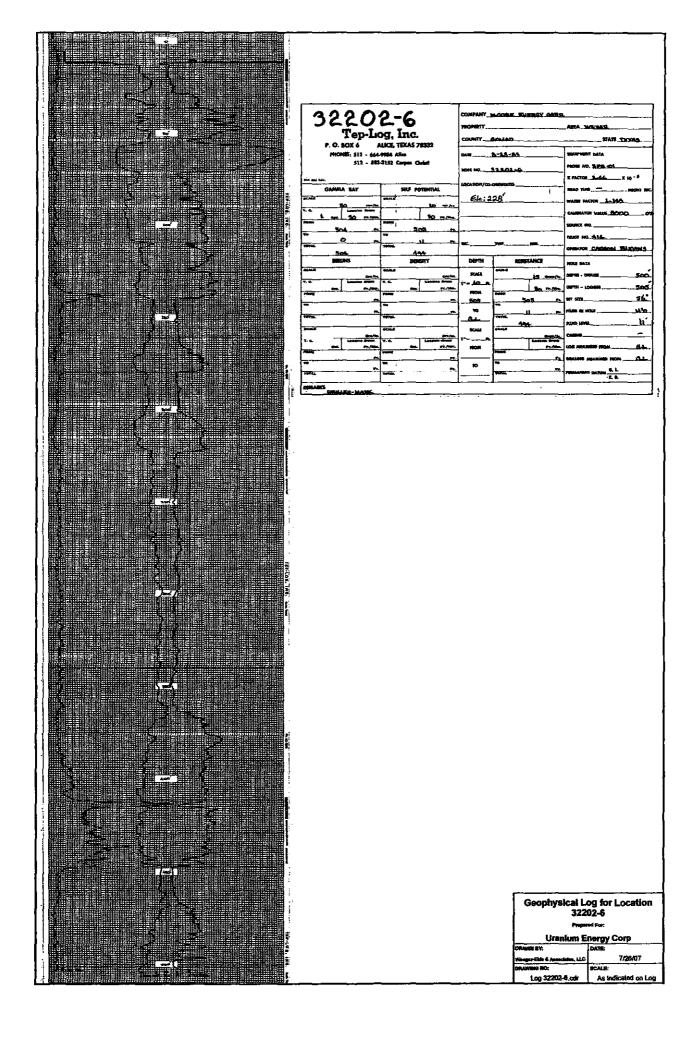




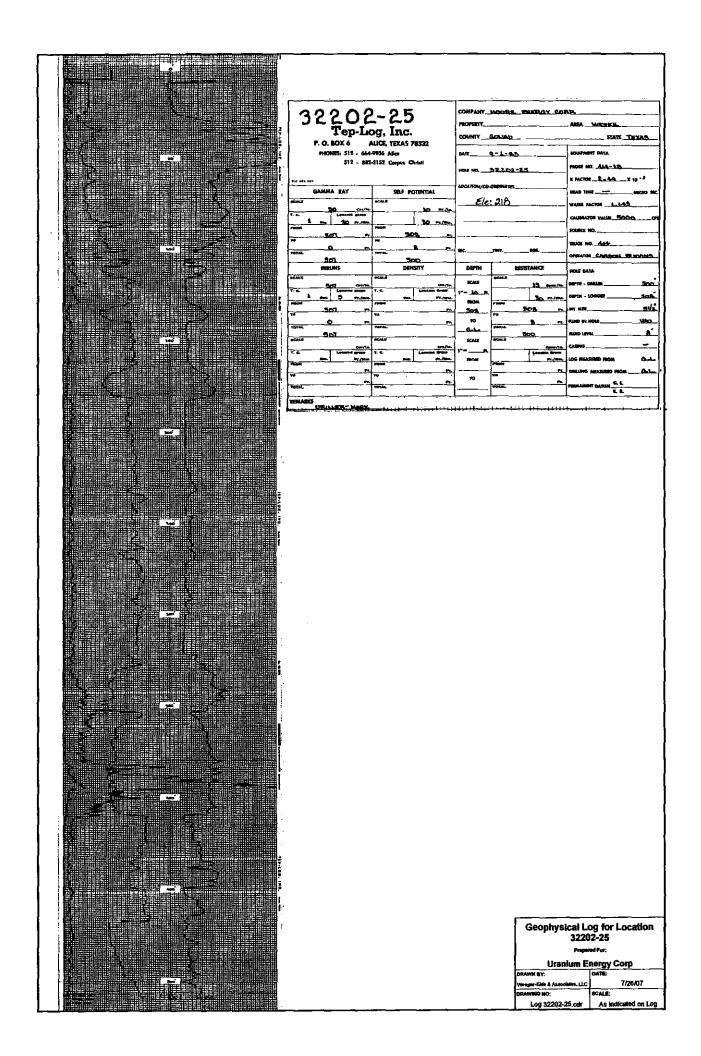


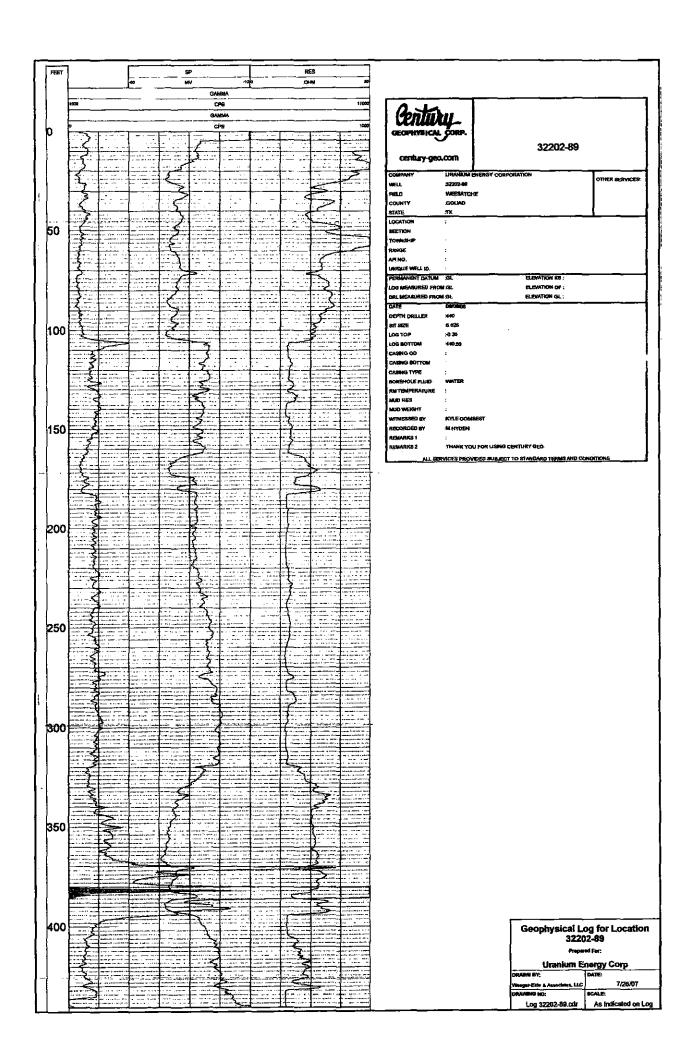


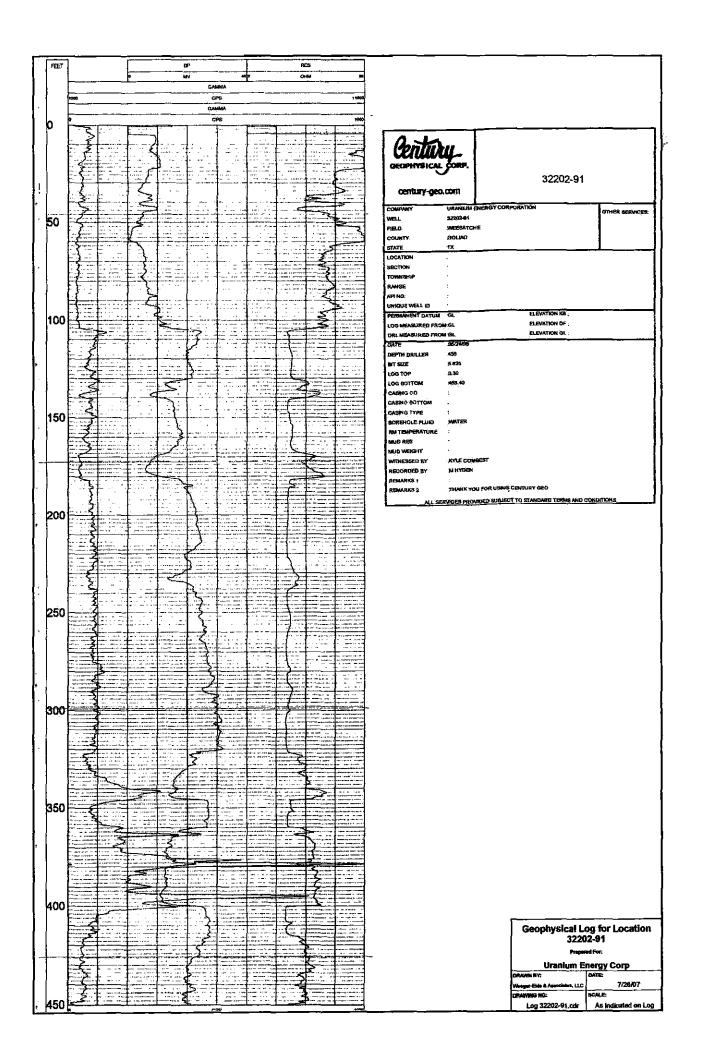


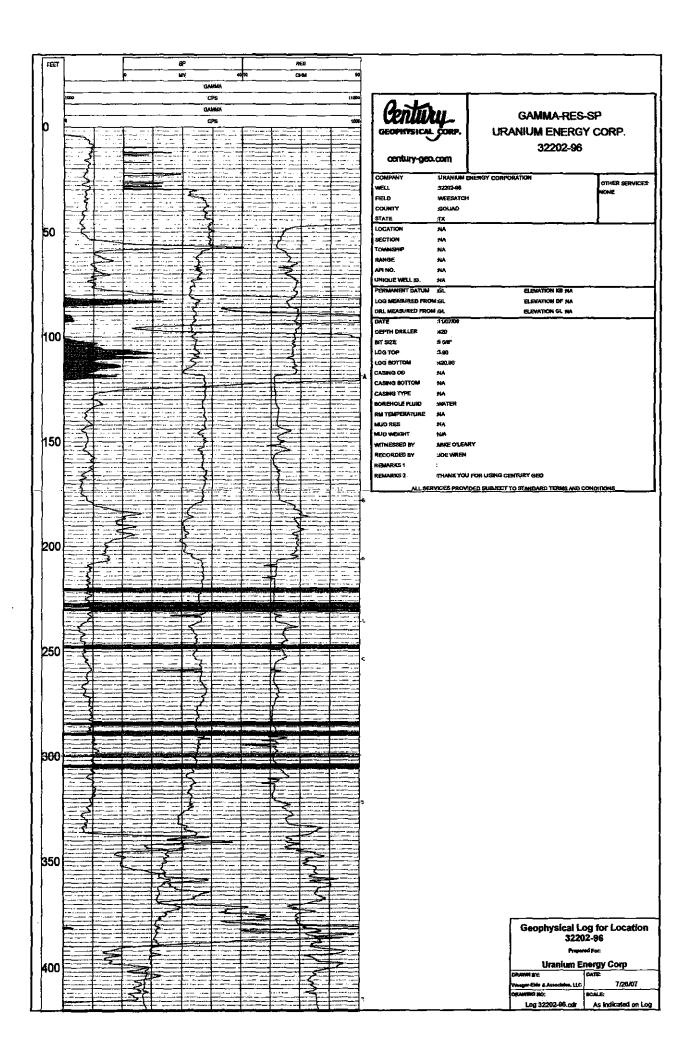


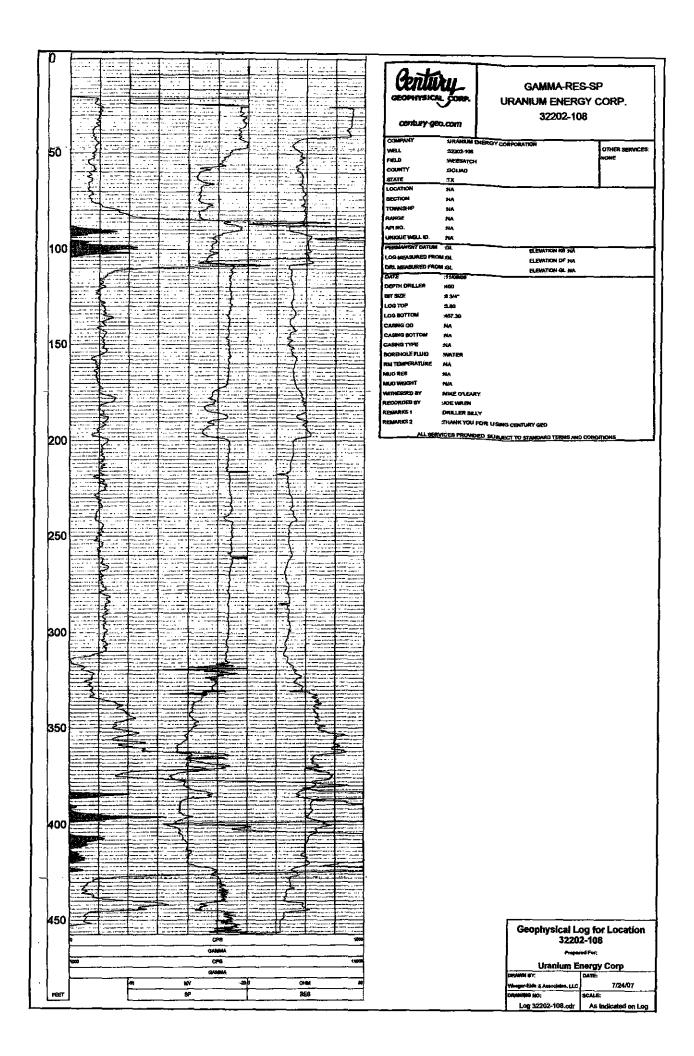
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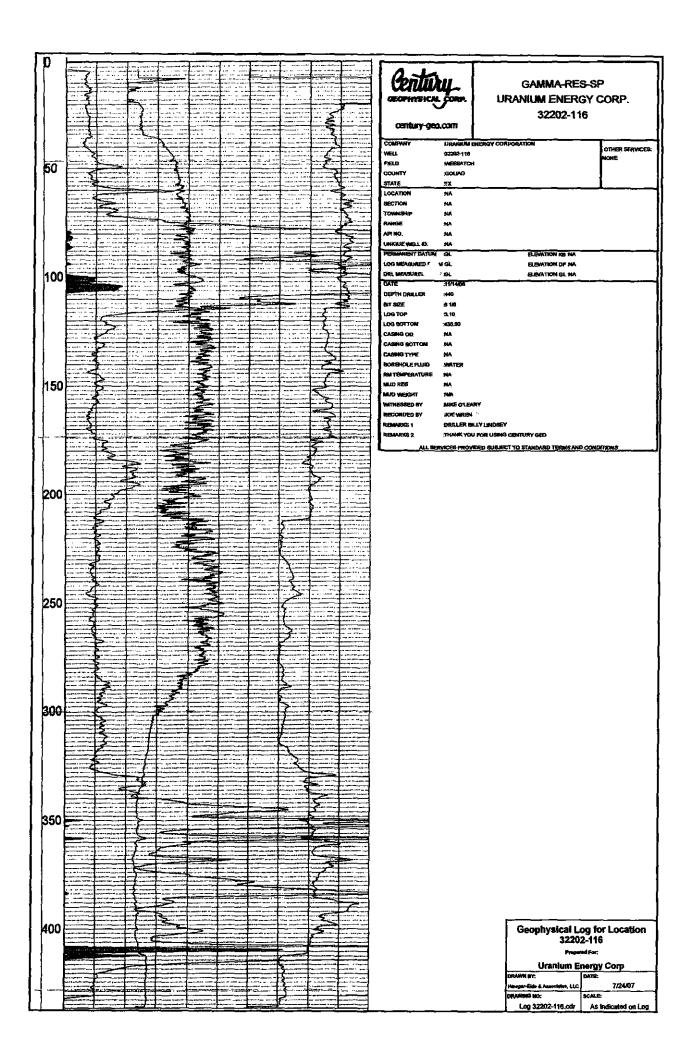


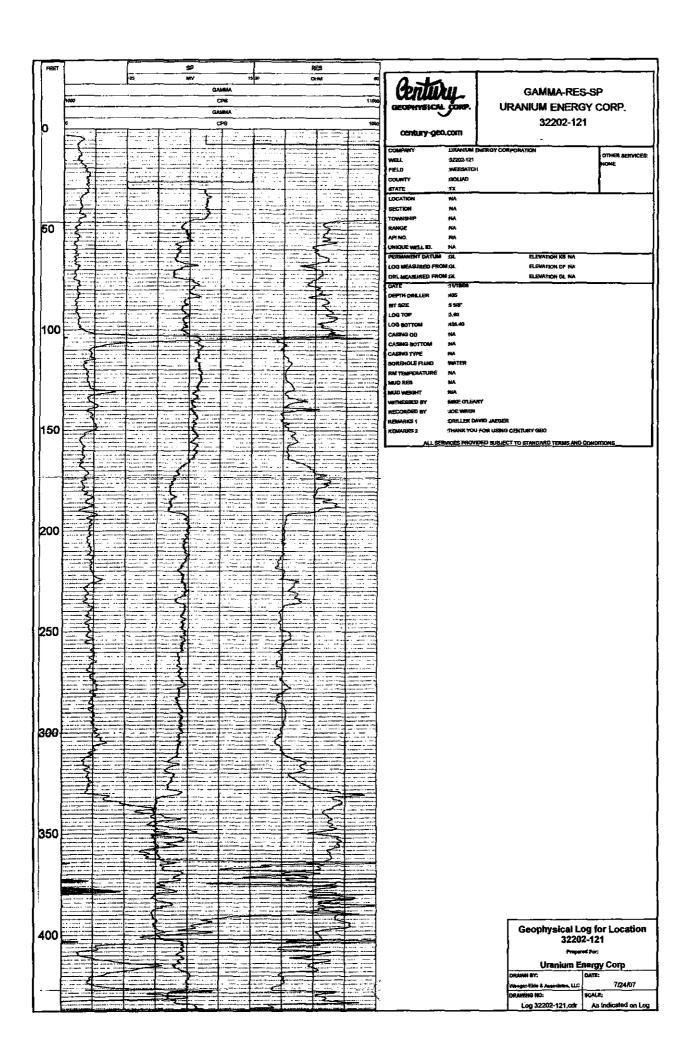


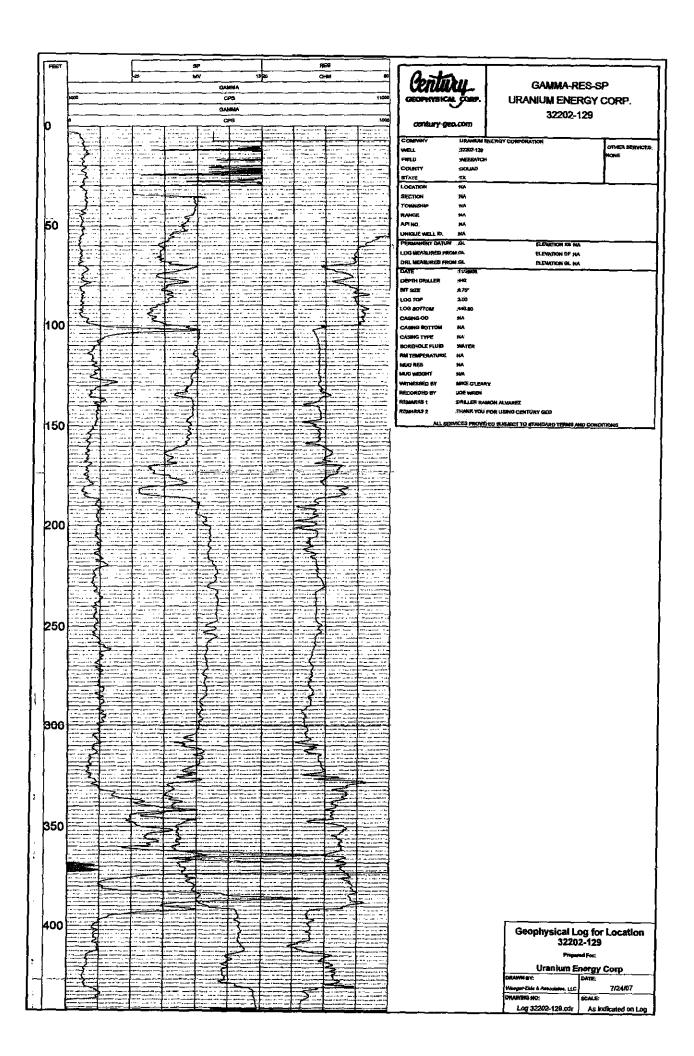


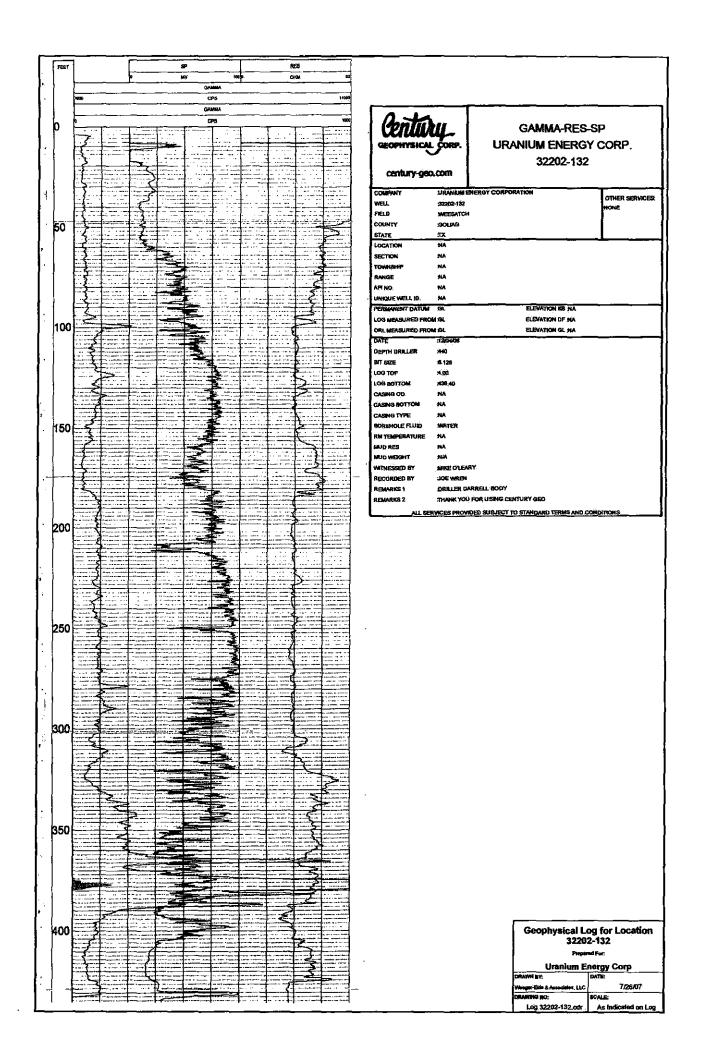


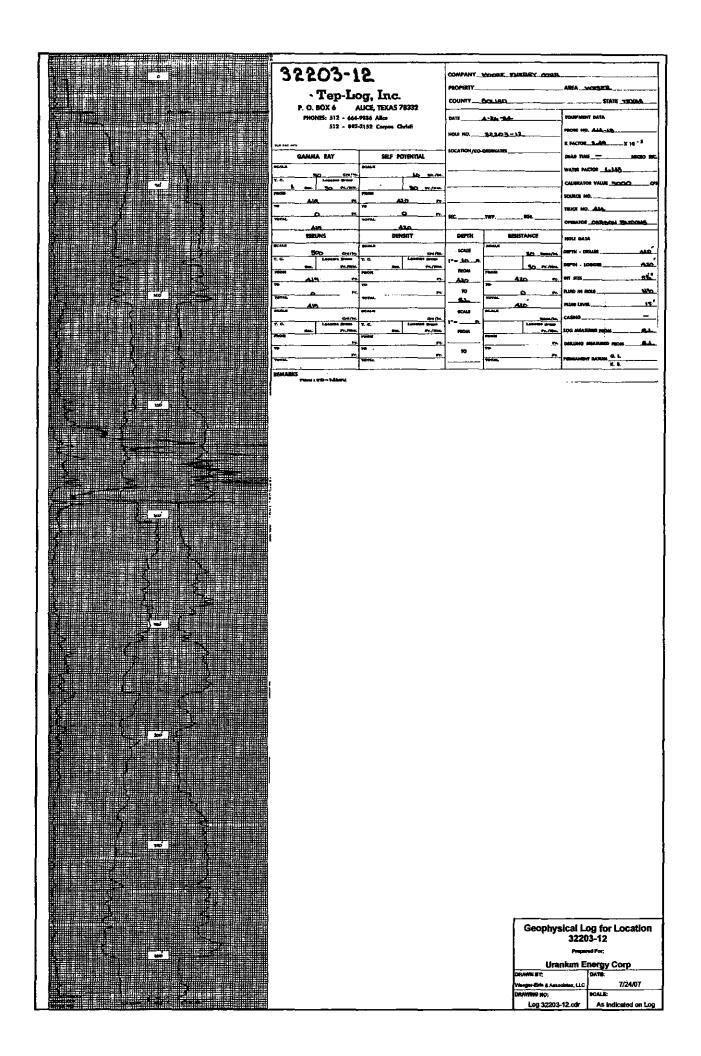






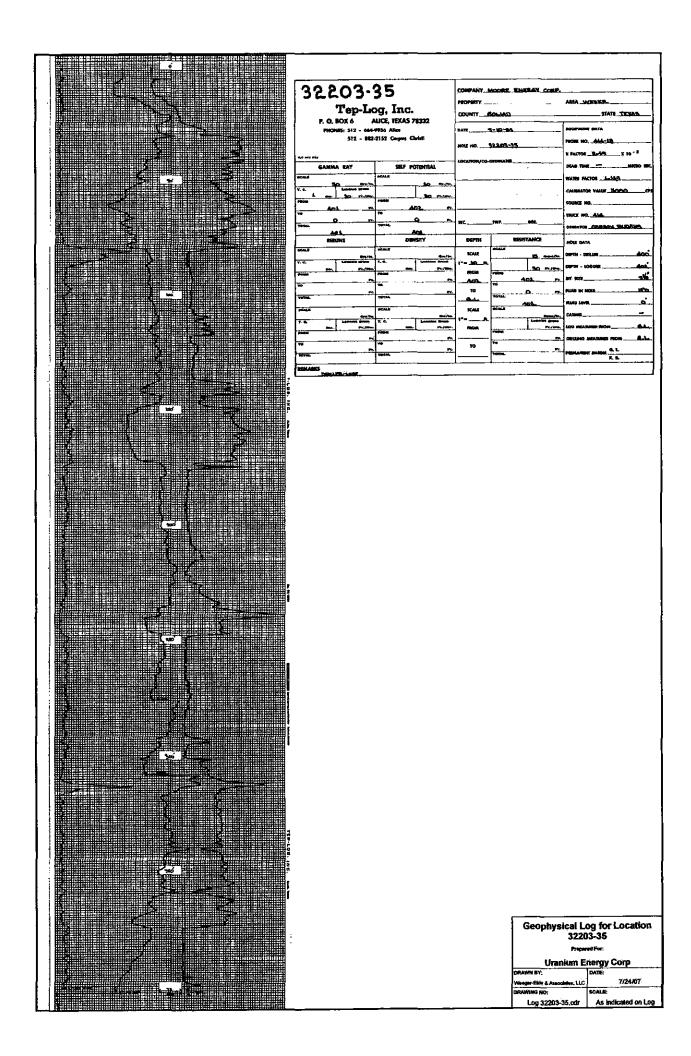


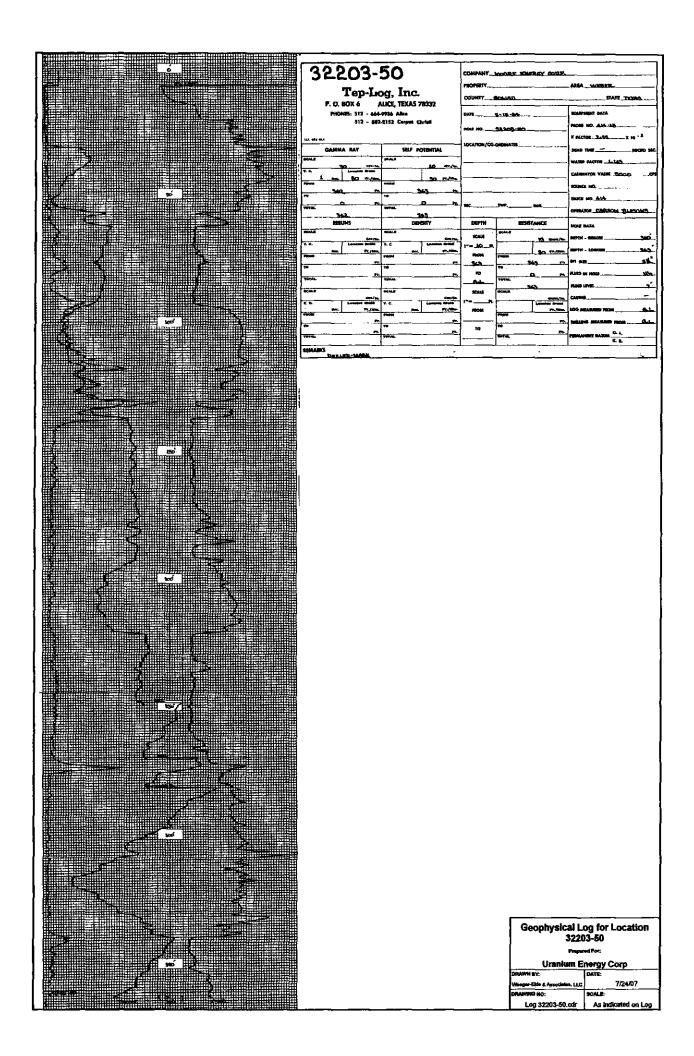




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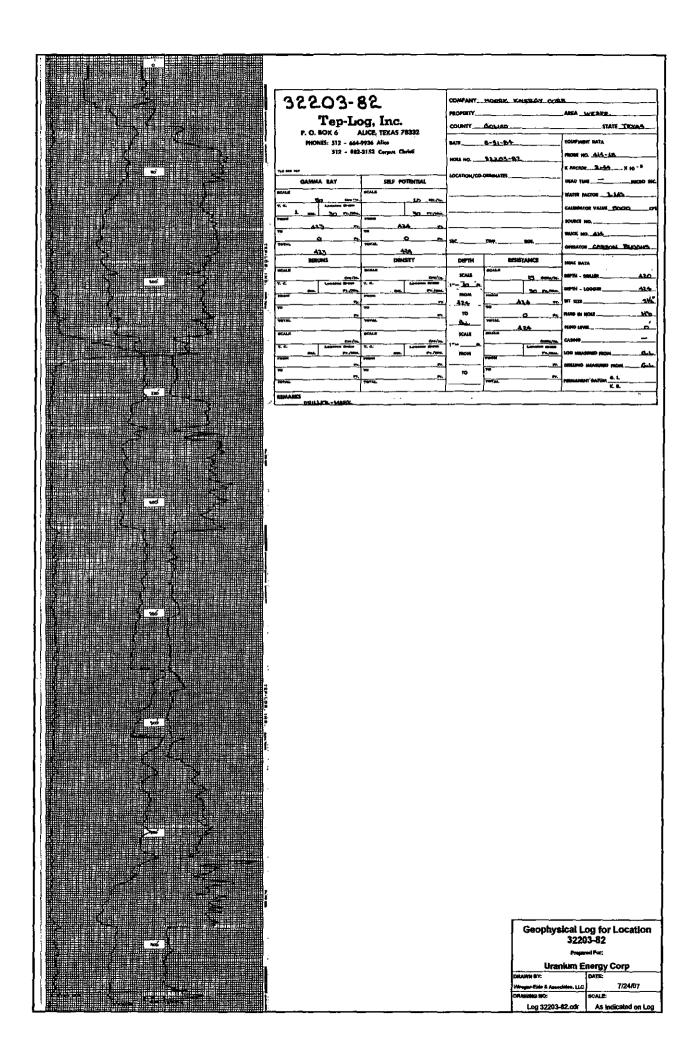
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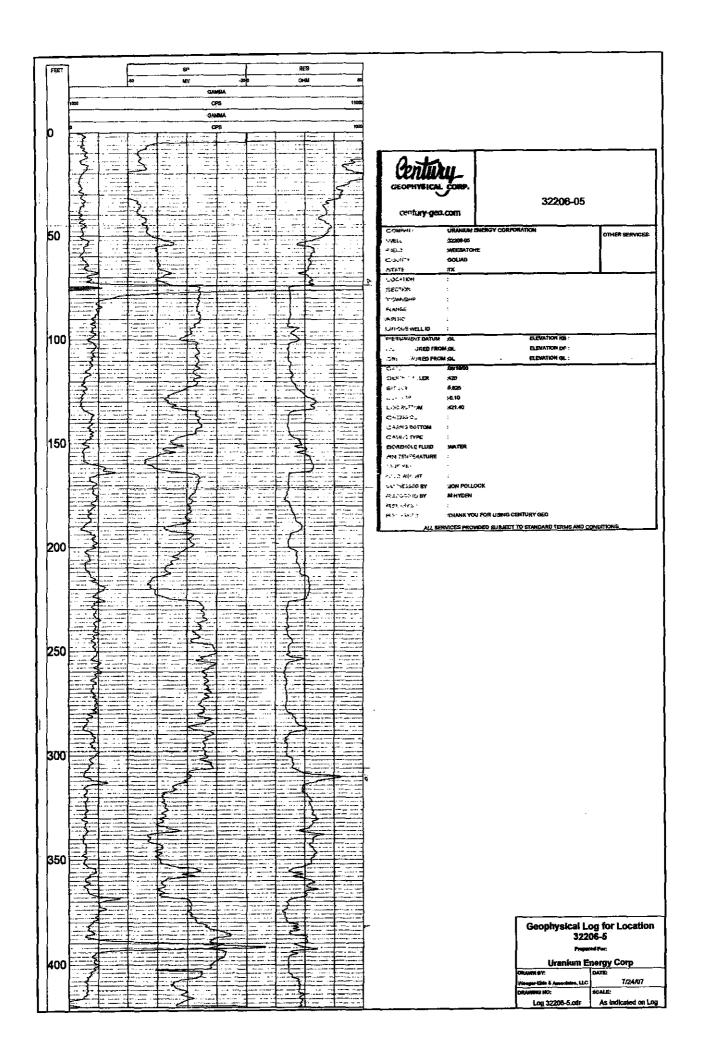


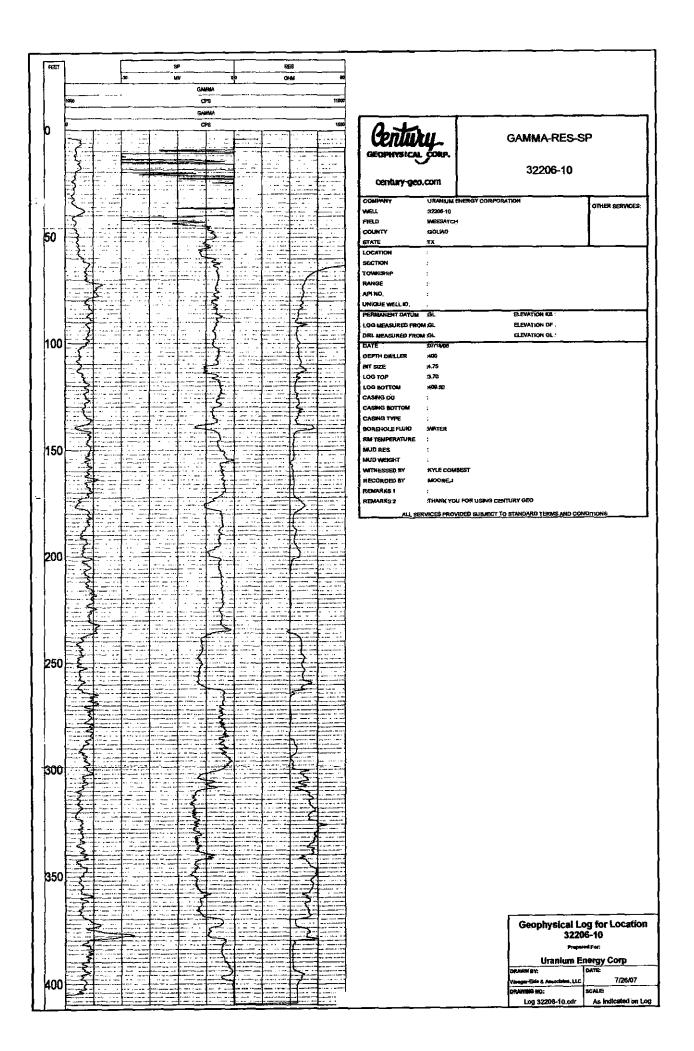


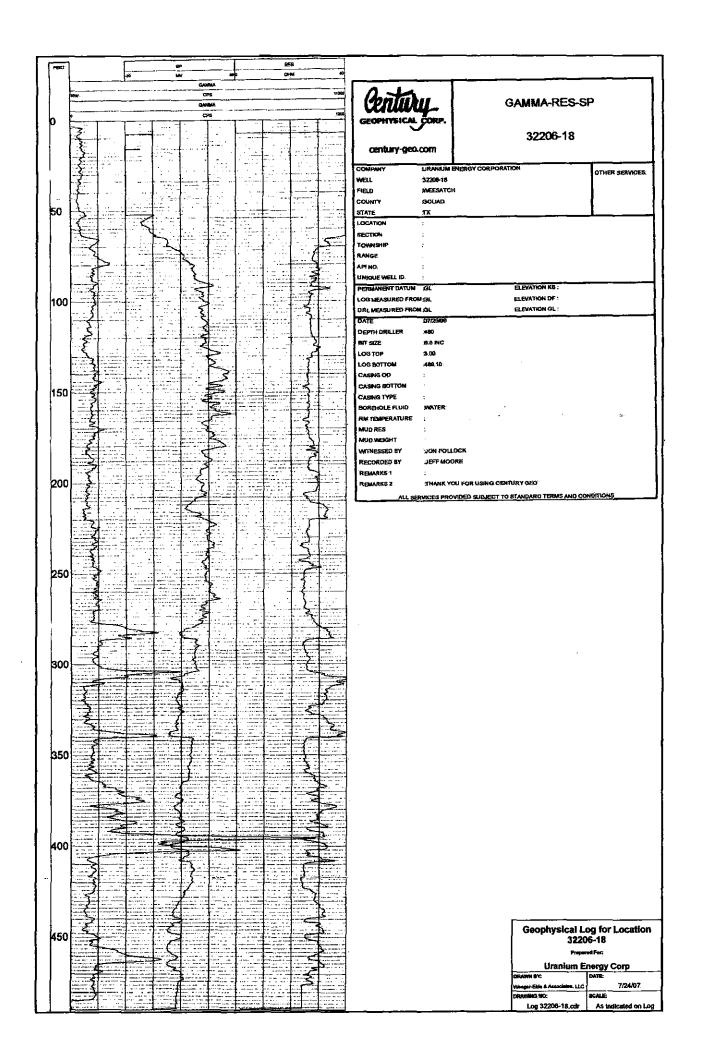
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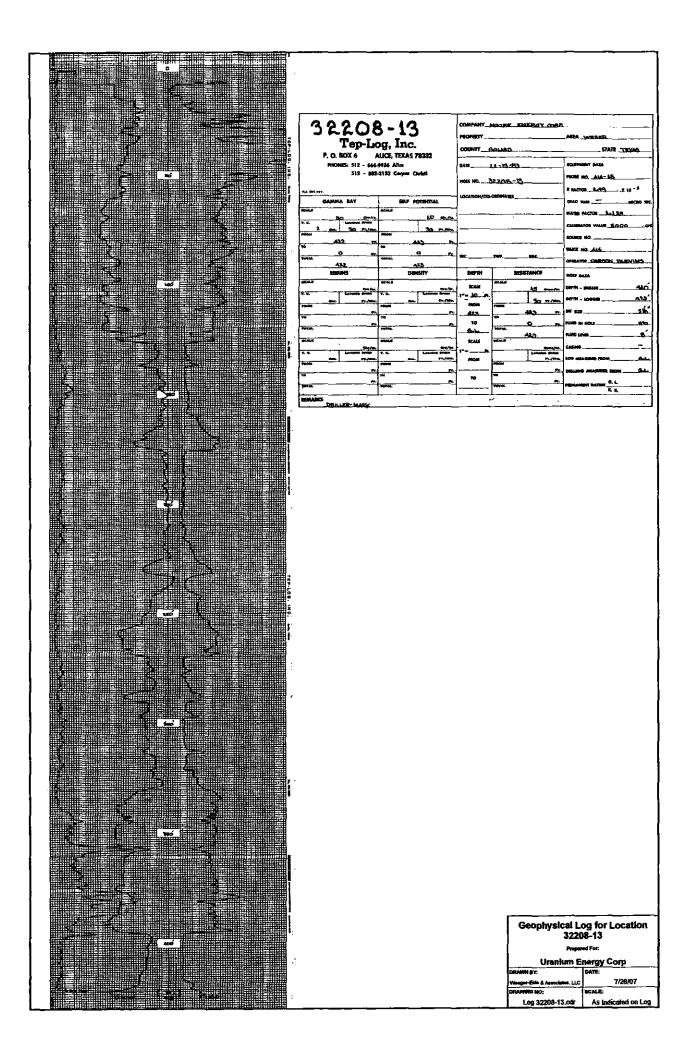


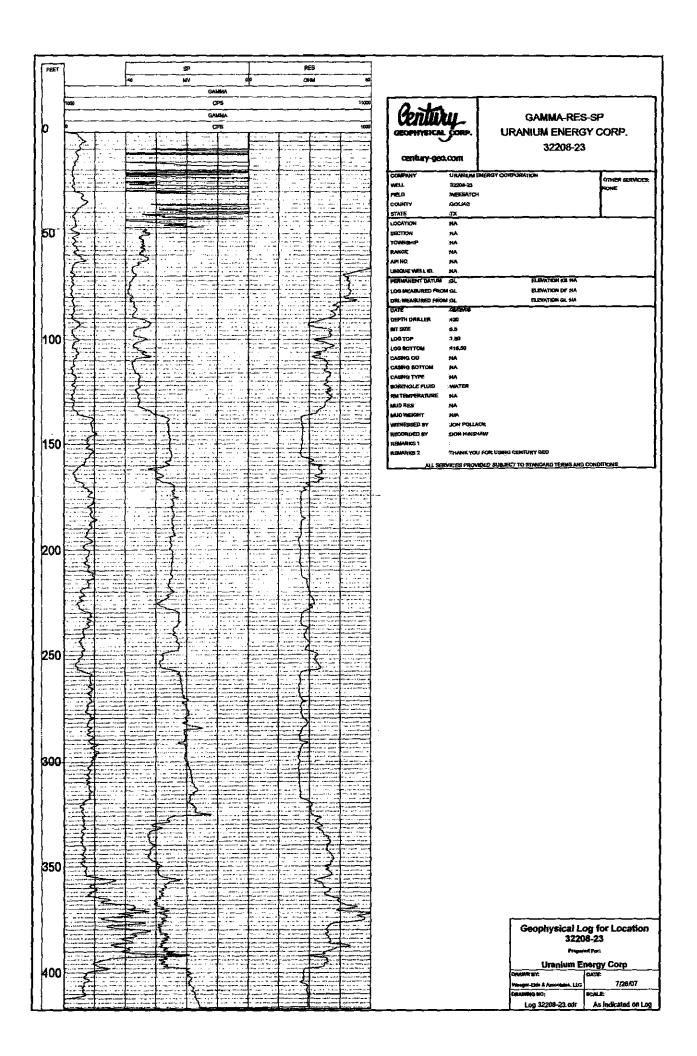


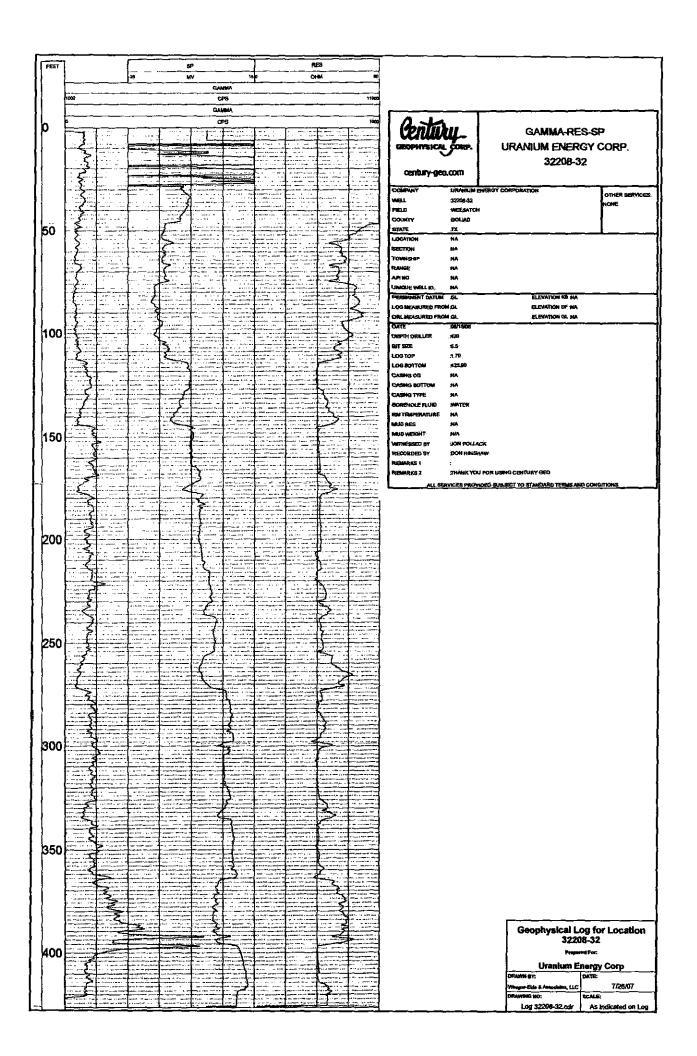


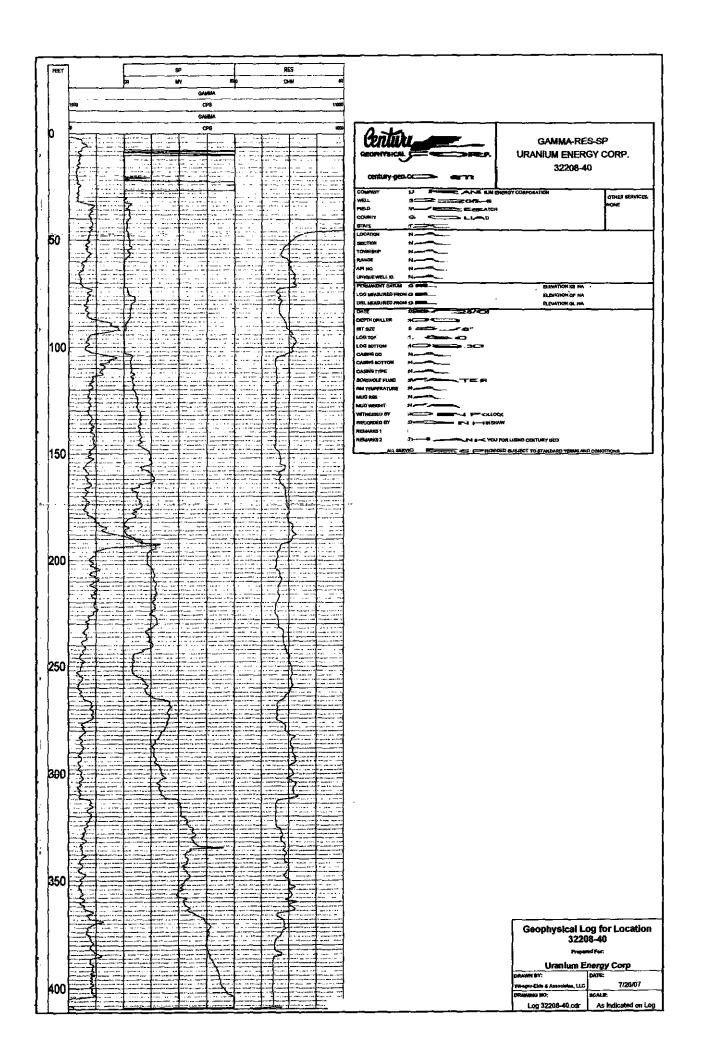


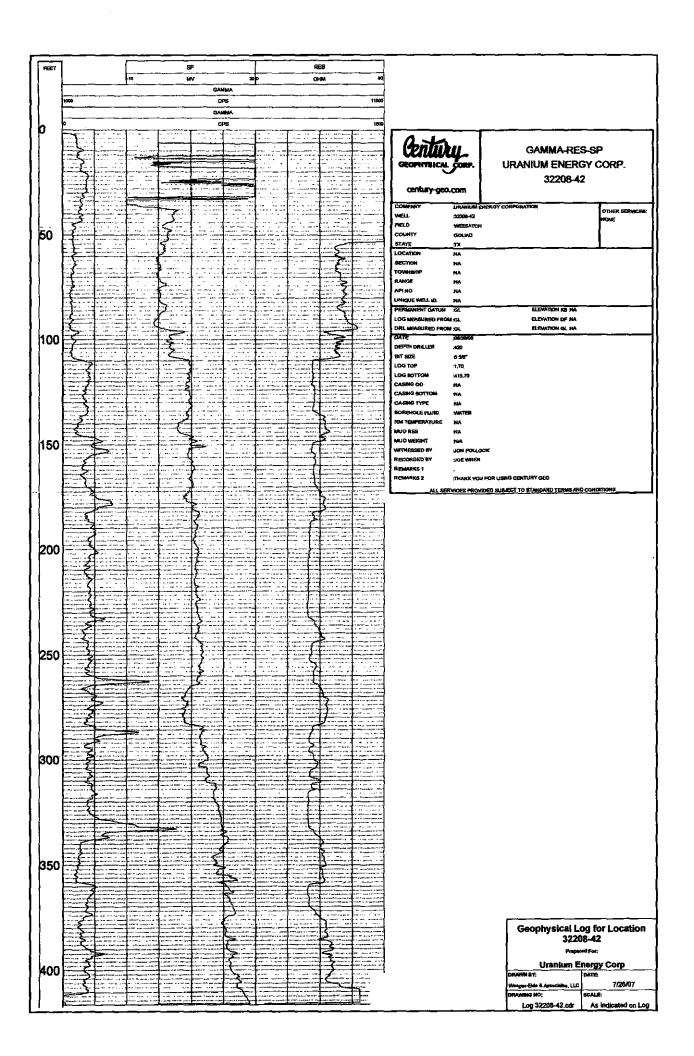
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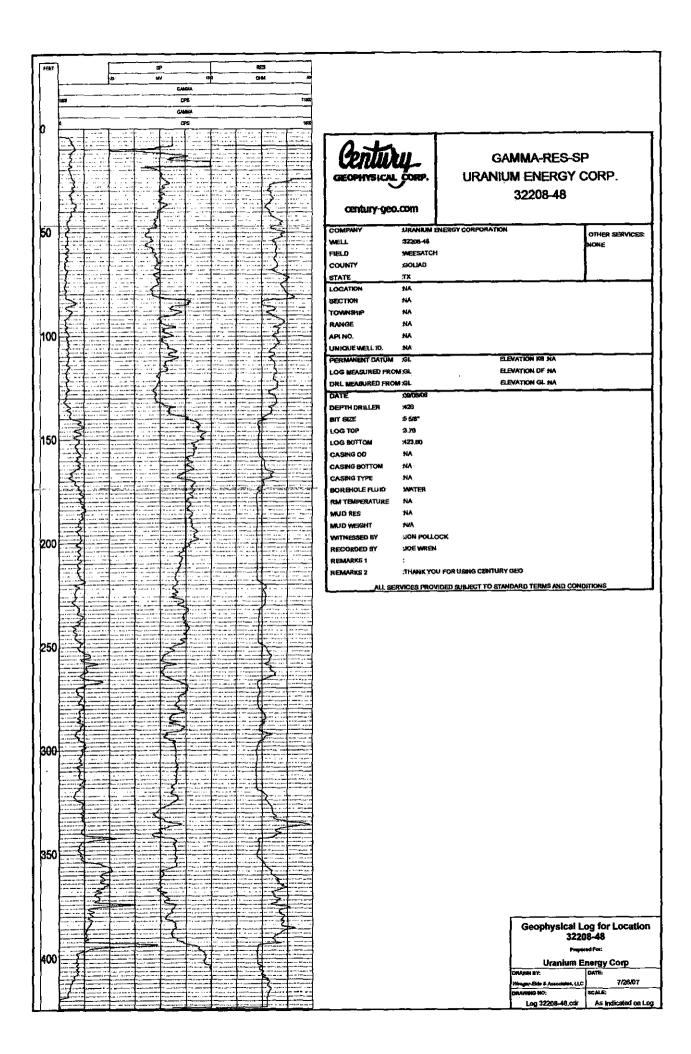


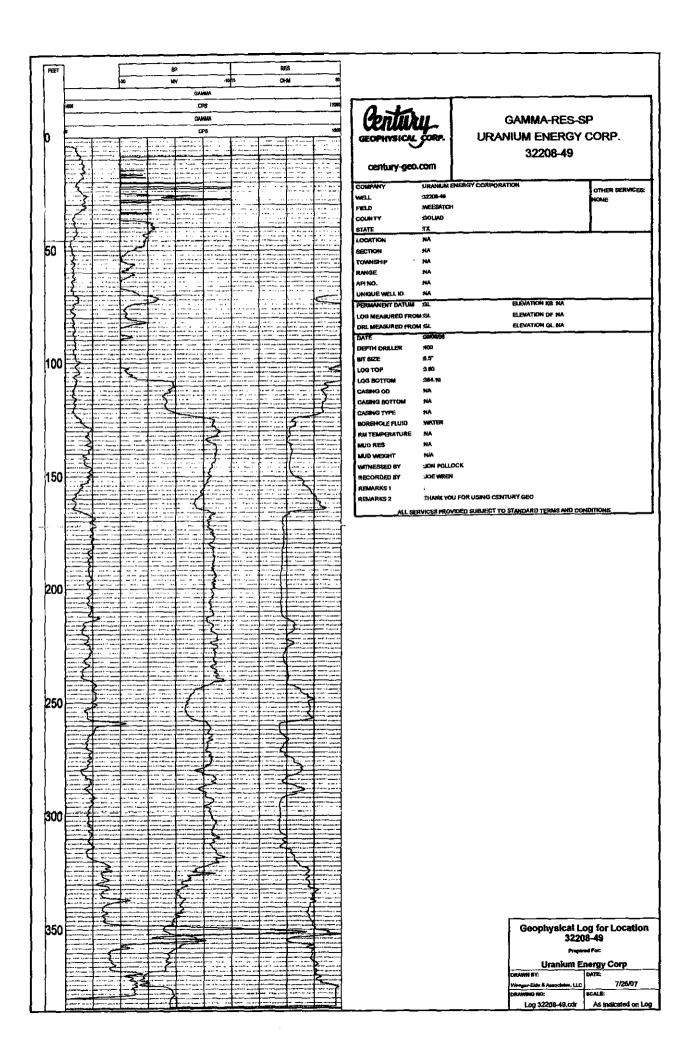












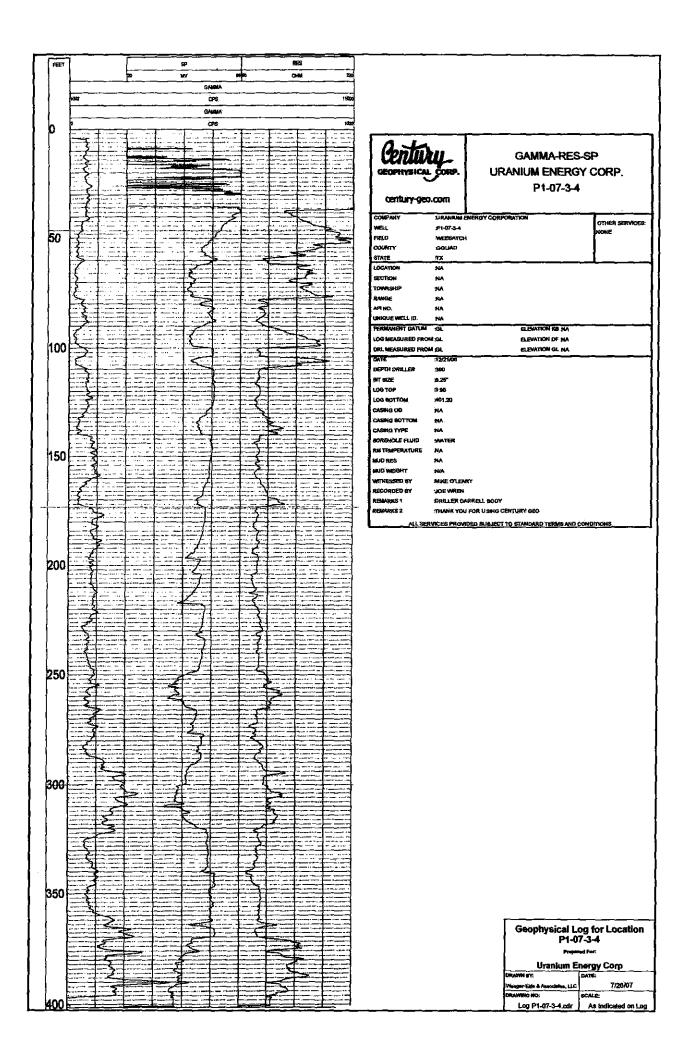
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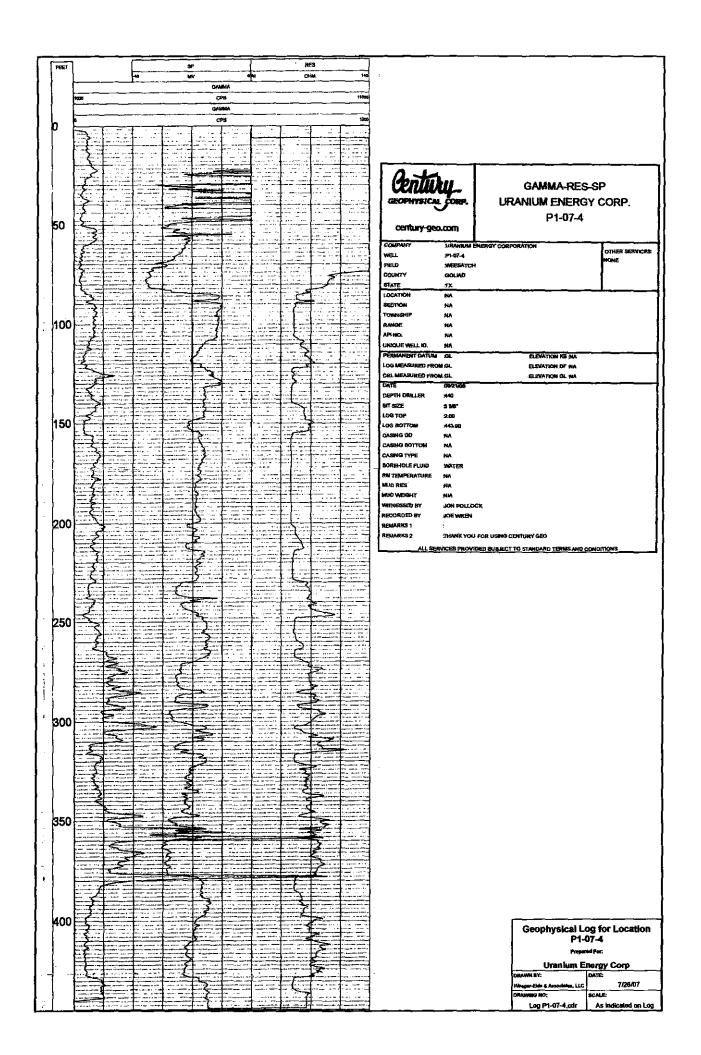
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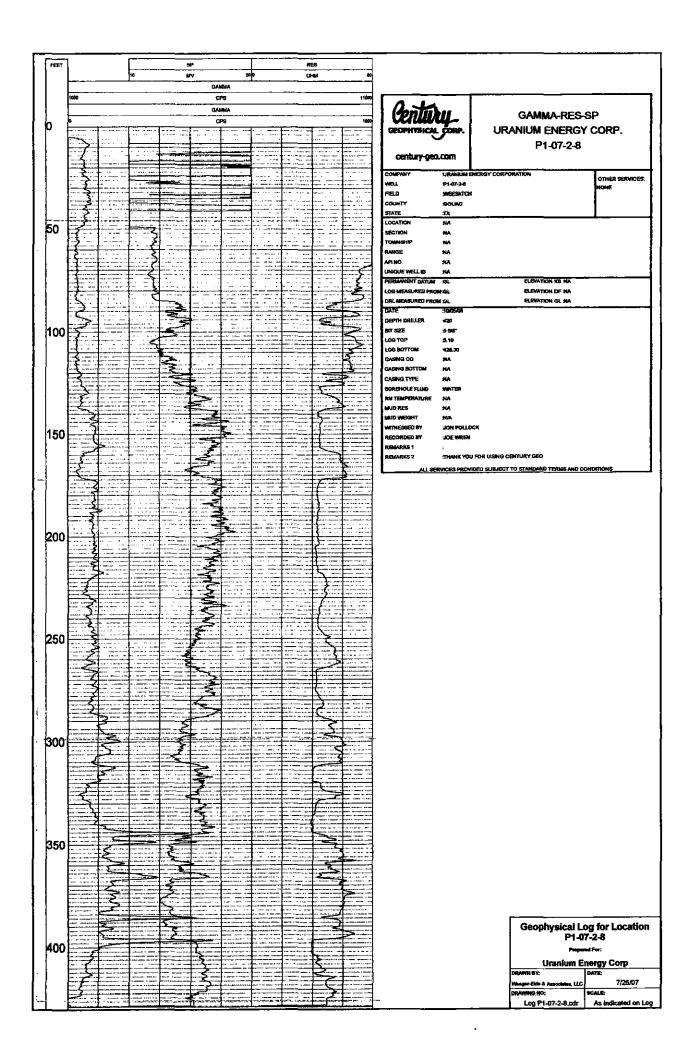
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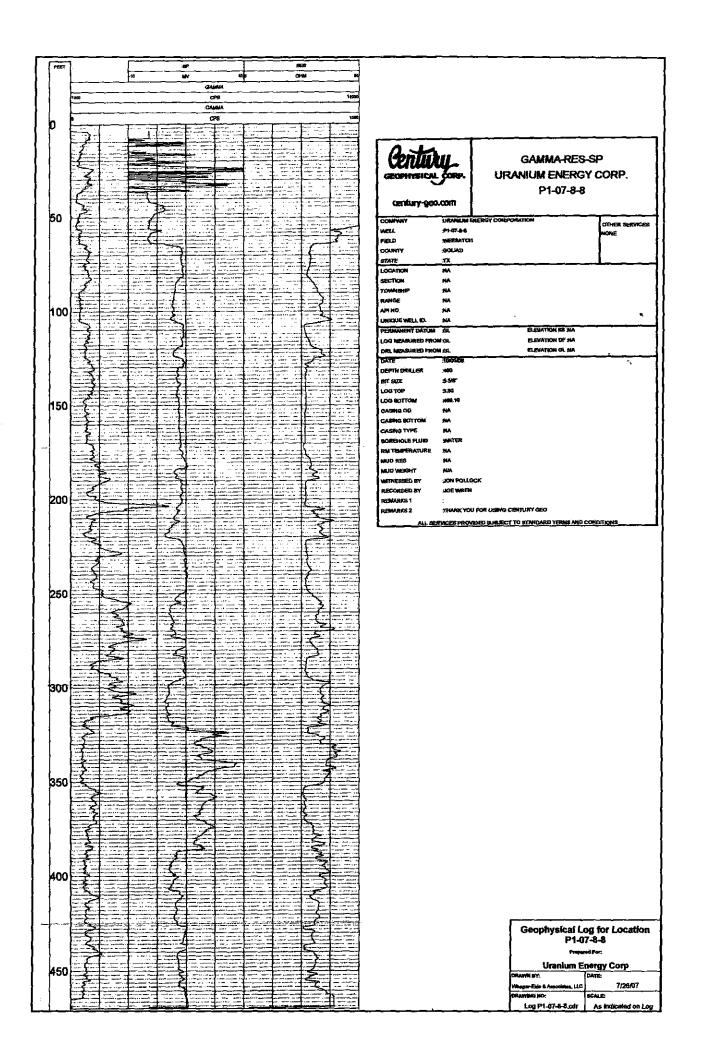
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Attachment 1

UEC Goliad Project Milestones for Aquifer Exemption Request

09/19/07	Notice published: Receipt and Intent to Obtain a New UIC Permit published in <i>Victoria Advocate</i> (Victoria County)		
09/26/07	Notice published: Receipt and Intent to Obtain a New UIC Permit published in <i>Texan Express</i> (Goliad County)		
01/24/08	Public Meeting on Class III UIC permit application and Aquifer Exemption request held in Goliad, Texas		
06/17/08	Notice published: Application and Preliminary Decision published in <i>Victoria Advocate</i> (Victoria County)		
06/20/08	Notice published: Application and Preliminary Decision published in Texan Express (Goliad County)		
04/07/09	Notice of Hearing published in Victoria Advocate (Victoria County)		
04/09/09	Notice of Hearing published in following newspapers:		
	Countywide (Karnes County)		
	Texan Express (Goliad County)		
	Cuero Record/Yorktown News View (DeWitt County)		
	Beeville Bee Picayune (Bee County)		
	Refugio County Press (Refugio County)		
05/03-11/11	Contested case hearing held in Austin (05/03-07/11) and in Goliad (05/10-11/11)		
09/28/10	Proposal for Decision issued by Administrative Law Judge		
12/14/10	TCEQ Commissioners vote to issue Class III UIC permit, Production Area Authorization no.1 and to approve Aquifer Exemption		
02/26/11	TCEQ Commissioners vote to issue an order to issue Class III UIC permit, Production Area Authorization no.1 and to approve Aquifer Exemption		
//11	Aquifer Exemption Order Signed by Commissioners		



Texas Commission on Environmental Quality Austin, Texas

AREA PERMIT NO. UR03075 Goliad Project In Situ Uranium Mine

AREA PERMIT to construct and operate Class III underground injection wells for in situ recovery of uranium and groundwater restoration under Chapter 27 Texas Water Code

I.	Permittee:	Uranium Energy Corp (UEC) 100 East Kleberg, Suite 310 Kingsville, TX 78363			
II.	Type of Permit	: Initial	<u>X</u>	_ Amended	Renewal
Ш.	Nature of Business:		In Situ Uranium Mining		ıg
IV.	General Descri	ntion an	d Locati	on of Injection A	Activity

The Goliad Project In Situ Uranium Mine (as shown in Attachment 1) is approximately 13 miles north of the city of Goliad, about 0.9 miles east of the intersection of State Highway 183 and Farm-to-Market Road 1961, in Goliad County. The permit area (as shown in Attachment 2A) for this site is a total of 1139.4 aces as documented in the metes and bounds description (Attachment 3). The production zones are in sands of the Pliocene Goliad Formation. These sands, designated "A", "B", "C", and "D" from shallowest to deepest, range in depth from 45 to 304 feet below land surface.

CONTINUED on Pages 2 through 13

The permittee is authorized to conduct injection activity in accordance with limitations, requirements, and other conditions set forth herein. This permit is granted subject to the rules and orders of the commission, and the laws of the State of Texas. The permit will be in effect for ten years from the date of approval or until amended or revoked by the commission. If this permit is appealed and the permittee does not commence any action authorized by this permit during judicial review, the term will not begin until judicial review is concluded.

ISSUED DATE: APR 2 9 2011

For The Commission

V. Standard Provisions

A. Production Area Authorization

- 1. Mining in a production area within the permit area (Attachment 2A) requires a production area authorization (PAA) from the Texas Commission on Environmental Quality (TCEQ). Mining shall not begin until the production area authorization is obtained.
- 2. Each PAA shall include an updated Mine Plan (as provided in Attachments 2A and 2B), and be in accordance with 30 TAC §305.155.

B. Mechanical Integrity

- 1. In compliance with 30 TAC §331.43(d), 30 TAC §331.82, 30 TAC §331.85, and as specified in the application, proof of mechanical integrity for all Class III wells shall be demonstrated by well completion (cementing) records and by a pressure test. Information required to demonstrate mechanical integrity shall be reported to the executive director before injection of mining solution.
- 2. A pressure test shall also be conducted each time a tool that could affect mechanical integrity is run into the well in accordance with 30 TAC §331.82(c)(2).

C. Operating Requirements

- Mining solutions shall be confined to the production zone within the area of designated production zone monitor wells in accordance with 30 TAC §331.102. This shall be accomplished in each production area by a rate of withdrawal of water that exceeds the rate of injection of water.
- 2. Monitor wells shall be positioned to provide horizontal and vertical surveillance of groundwater quality to monitor confinement of the mining solutions in accordance with 30 TAC §§331.82(g) and 331.103.
- 3. Before making any modification in the composition of the mining solutions from that described in the application incorporated by Provision VIII.B., the permittee shall provide adequate descriptive information and obtain authorization by permit amendment or modification.
- 4. The fluid used for uranium mining shall consist of native groundwater supplemented with bicarbonate ions, sodium hydroxide, and oxygen or hydrogen peroxide.
- 5. Discharge of fluids into the surface waters of the State is not authorized by this permit.

Goliad Project In Situ Uranium Mine

Page 3

D. Wellhead Pressure

- 1. Pressure gauges shall be installed, easily readable, and maintained in working condition on all injection wells or on the injection manifold with the maximum allowable injection pressure clearly marked on each gauge.
- 2. Wellhead pressures shall be limited to minimize the possibility of leakage from the production zone into the non-production zones. Injection pressures shall not exceed 0.40 psi per foot of well depth or the internal yield pressure of the casing.

E. Monitoring Parameter Upper Limits

- 1. Chloride, conductivity, and total dissolved solids shall be used as control parameters in monitoring for excursions of mining solutions from each production area. Upper limit concentrations that indicate the presence of an excursion shall be calculated for the production zone by adding 25% to the maximum values determined in the sampling of the production zone wells for each production area.
- In the event of an excursion, as defined in provision V.G.2. of this permit and in 30 2. TAC §331.2, monitoring for uranium and radium²²⁶ shall be required. Sampling and analysis for uranium and radium²²⁶ shall be in accordance with provision V.G.2. of this permit.

F. Sampling, Preservation, Analysis and Quality Control

- 1. To obtain a valid sample, during completion each sample well shall be pumped until the water is free of mud and foreign material and until conductivity and pH are reasonably constant. As samples are taken during baseline, routine, and restoration sampling, the sampling method, as described in the application or subsequent amendments, shall assure that the water sampled is formation water. Excess water pumped from the production wells or monitor wells containing mining solutions shall not be discharged into the surface waters of the State.
- 2. Sample preservation, analysis and analytical quality control shall be as a. defined in the most recent issue of Methods for Chemical Analysis of Water and Wastes (EPA - Technology Transfer). Total Dissolved Solids shall be determined by evaporation at 180°C. All data submitted to the TCEO shall be in a manner consistent with the latest version of the "Quality Assurance Project Plan for Environmental Monitoring and Measurement Activities Relating to the Resource Conservation Recovery Act and Underground Injection Control" (TCEQ QAPP), which applies to oversight responsibilities of all regulated entities conducting environmental activities.
 - Any other method not specified in the referenced EPA document shall be b. approved by the executive director.

3. The permittee shall notify the Field Operations Division MC 174, P. O. Box 13087, Austin, TX 78711-3087 of intent to collect samples for baseline and final closing of each PAA at least two weeks before sample collection to allow the staff an opportunity to split samples for confirming analysis.

G. Monitoring and Reporting Requirements

1. Routine Mining Operations

- a. Water samples shall be taken at least twice each month at two-week intervals from all monitor wells for production areas in which mining solutions have been introduced, and shall be analyzed for the control parameters identified in Section V.F. of this permit and 30 TAC §331.105(1) and (2). This monitoring program shall be continued for each subject production area until the Field Operations Division, Region 14 Corpus Christi Office, 6300 Ocean Dr., Unit 5839, Corpus Christi, TX 78412-5839 and Industrial and Hazardous Waste Permits Section, MC 130, P. O. Box 13087, Austin, TX 78711-3087 are officially notified that restoration has commenced.
- As required by 30 TAC §331.85(e), routine monitoring data shall be reported at least quarterly to the Field Operations Division, MC 174, P. O. Box 13087, Austin, TX 78711-3087 on a form provided by the executive director, in accordance with the form completion instructions and postmarked no later than the 10th day of the following reporting period.
- c. The permittee shall retain in an organized fashion and furnish to the TCEQ's representative, upon request, records of all monitoring information, copies of all reports and records required by this permit, for a period of at least 3 years from the date of the sample, measurement, report, record, certification, or application.
- d. In addition to the recordkeeping and reporting requirements specified elsewhere in this permit, the permittee shall maintain at the permitted mining site all data from monitoring and testing, inspections, and other records required by the provisions of 30 TAC Chapters 305 and 331 and the permit. These records will be made available to representatives of the TCEQ upon request.
- e. The permittee shall keep records throughout the term of the permit of data used to complete the final application, any supplemental information, and a copy of the issued area permit and PAAs. All copies of any renewals, amendments, revisions, and modifications must also be kept at the facility such that the most current documents are available for inspection at all times.

f. All materials, including any related information submitted to complete the application shall be retained, not just those materials which have been incorporated into the permit as required by 30 TAC §305.47.

2. Excursions

- a. An excursion (defined by 30 TAC § 331.2 as the movement of mining solutions into a designated monitor well) is indicated by the sampled concentration of any control parameter provided in Section V.E.1. of this permit being equal to or above the upper limit established for the applicable PAA. Within two days of detecting an apparent excursion, the permittee shall repeat the sampling and complete a verifying analysis of the samples taken from each apparently affected well in accordance with 30 TAC §331.105(3).
- b. If the verifying analysis confirms the existence of an excursion, the permittee shall notify the Field Operations Division, Region 14 Corpus Christi Office, by the next working day by telephone and by letter postmarked within 48 hours of identification of the excursion. The notification must identify the affected monitor well and the control parameter concentrations.
- c. While mining solutions are present in a designated monitor well, the permittee shall conduct sampling and analysis of each affected well at a frequency of at least two times per week in accordance with 30 TAC §331.105(4).
- d. Reporting shall be monthly according to 30 TAC §331.85(f) (by the second day after each sample is taken). Parameters analyzed and reported during periods of excursions shall consist of the control parameters specified in Provision V.E.1 of this permit plus uranium and radium²²⁶ as specified in Provision V.E.2. of this permit.

3. Restoration

- a. The executive director shall be notified when routine mining operations have ceased within a given production area and the permittee shall commence groundwater restoration according to 30 TAC §331.107(b).
- b. As specified in §331.105(2), regular monitoring shall be continued until the executive director has been officially notified that restoration has commenced. Sampling of monitor and baseline wells for the production area during restoration shall occur at least quarterly, and shall be analyzed for certain parameters provided in the Restoration Table for the applicable production area.

Page 6

Permit No. UR03075 Goliad Project In Situ Uranium Mine

c. Beginning six months after the date of initiation of restoration of a production area, the permittee shall provide to the Field Operations Division MC 174, P. O. Box 13087, Austin, TX 78711-3087 semi-annual restoration progress reports until restoration is accomplished for the production area.

4. Stability Sampling

- a. Upon performing groundwater restoration as required by 30 TAC §331.107(b) or as provided by §331.107(f), the permittee shall conduct stability sampling for the parameters listed in the Restoration Table from all production area baseline wells as required by 30 TAC §331.107(e).
- b. A minimum of three sample sets, taken at a minimum of 30-day intervals, shall be reported to the executive director over a period of one calendar year between cessation of restoration operations and the final set of stability samples in accordance with §331.107.
- c. Stability sampling shall comply with the requirements provided by 30 TAC §331.107(f), in the event the restoration table is amended.

Annual Report

By December 31st of each year, the permittee shall submit to the Industrial and Hazardous Waste Permits Section, MC 130, P. O. Box 13087, Austin, TX 78711-3087 an annual report. The annual report shall include:

- a. For injection wells, production wells, baseline wells, and monitor wells authorized under the Class III area permit and production area authorizations, the number and identity of wells plugged and wells constructed during the report period, and the total number of unplugged wells at the time of reporting:
- b. A revised calculation of plugging cost for unplugged wells as specified in subsection V.H.5.a. of this permit;
- An updated map and tabulation of newly constructed or newly discovered artificial penetrations of the subsurface within the area of review, and for such penetrations, assessment of need for corrective action under 30 TAC §331.44; and
- d. An updated mine plan showing the estimated schedule of the sequence and timing for mining and aquifer restoration in each production area authorization.

H. Plugging and Abandonment

- All of the wells in each PAA associated with this permit, including baseline wells, monitor wells, and injection/production wells, shall be plugged in accordance with 30 TAC § 331.46 within 120 days of completion of final restoration of the each PAA unless revisions of the time requirements are approved by the executive director under 30 TAC §331.86(a).
- 2. The permittee shall notify the executive director in writing at least two weeks before commencing plugging and abandonment.
- 3. Plugging and abandonment shall be accomplished according to the plans and specifications submitted in the application identified in Provision VIII.B and as modified by Provision V.H.5. Any revised, updated, or additional plugging and abandonment plans shall be approved by the executive director through the permit amendment or modification process.
- 4. Within 30 days after completion of well closure (plugging), a closure report shall be filed with the Industrial & Hazardous Waste Permits Section, MC 130, P. O. Box 13087, Austin, TX 78711-3087 in accordance with §331.46(m).
- 5. The wells shall be plugged and abandoned in accordance with the requirements of 30 TAC TAC §331.86 and with the following requirements:
 - a. Removal of all equipment from the well;
 - b. Cementing the wellbore from total depth to the surface with a cement slurry with a weight of no less than 9.5 lbs/gallon;
 - c. Cutting and removal of the casing from a depth of 3 feet to the surface; and
 - d. Backfilling the hole with native soil, graded to approximately the natural contour of the land.
- 6. All production and injection wells that remain unplugged for use in restoration activities shall be temporarily capped in a manner to preclude the introduction of any material from the surface into the borehole.

JEC Page 8

VI. Radioactive Materials License

The permittee shall have a valid license(s) from the TCEQ covering the handling and processing of radioactive materials for this facility, prior to mining for the recovery of uranium. The primary and supporting production/processing facilities, along with supplies and materials used by or resulting from these facilities, are to be installed, operated, maintained and handled in accordance with the plans, specifications, and descriptions submitted as part of the application for commission licensing in order to prevent spills, discharges, or dispersion of any materials, directly or indirectly, to surface or ground waters.

VII. Financial Assurance

- A. The permittee shall secure and maintain in full force and effect at all times an acceptable financial assurance mechanism, following 30 TAC §§ 331.141 331.144, to provide for plugging and abandonment of the permitted Class III wells, baseline wells, and monitoring wells.
- B. The amount of financial assurance shall be updated annually for all production areas (PAs) to provide for adequate plugging and to reflect changes in the costs of materials and labor.
- C. This permit does not authorize underground injection of fluid unless the permittee has in effect an acceptable financial assurance mechanism as described above. Financial assurance shall be submitted at least 60 days prior to commencement of drilling operations in each PA and be effective before drilling begins in accordance with 30 TAC §37.7021(c).
- D. To obtain release of financial assurance, a professional engineer or professional geologist licensed in Texas shall certify that plugging and abandonment has been accomplished in accordance with the permittee's plugging and abandonment plan in accordance with 30 TAC §331.144.

VIII. Additional Provisions

- A. The following rules are incorporated as terms and conditions of this permit by reference:
 - 1. Financial Assurance of Underground Injection Control Wells 30 TAC Chapter 37 Subchapter Q;
 - Consolidated Permits
 TAC Chapter 305 Subchapters A, C, F, and H; and
 - Underground Injection Control
 TAC Chapter 331 Subchapters A, C, E, F, G, and I.
- B. This permit is based on, and the permittee shall follow the plans and specifications contained in the Class III Underground Injection Control Application dated July 27, 2007 and revised October 2, 2007, December 7, 2007, January 30, 2008, February 19, 2008, March 19, 2008, and April 3, 2008, which is hereby approved subject to the terms of this permit and any other

orders of the TCEQ. These materials are incorporated into this permit by reference as if fully set out herein. Any and all revisions to these elements shall become conditions of this permit upon the date of approval by the commission.

- C. Acceptance of this permit by the permittee constitutes an acknowledgment and agreement that the permittee will comply with all the terms and conditions embodied in the permit, and the rules and other orders of the commission in accordance with 30 TAC §305.124.
- D. This permit is subject to further orders and rules of the commission. In accordance with the procedures for amendments and orders, the commission may incorporate into permits already granted, any condition, restriction, limitation, or provision reasonably necessary for the administration and enforcement of Texas Water Code Chapters 27. Additionally, the permittee has a duty to comply with the following permit conditions:
 - 1. Modification of Permitted Wells, Operational Methods, and Related Specifications

The wells and operational methods authorized are limited to those described herein and by the application submittals. All wells and operational methods are subject to the terms and conditions of this permit and TCEQ rules. Prior to constructing or operating any wells in a manner which differs from either the related plans and specifications contained in the permit application or the limitations, terms, or conditions of this permit, the permittee must comply with the TCEQ permit amendment or modification rules as provided in 30 TAC §§305.62 and 305.72, respectively.

2. Definitions

For purposes of this permit, terms used herein shall have the same meaning as those in 30 TAC Chapters 37, 305, and 331 unless this permit specifically provides otherwise; where terms are not defined in the regulations or the permit, the meaning associated with such terms shall be defined by a standard dictionary reference or the generally accepted scientific or industrial meaning of the term.

3. Permit Expiration

In order to continue a permitted activity after the expiration date of the permit the permittee shall submit an application for permit renewal at least 180 days before the expiration date of the effective permit, unless permission for a later date has been granted by the executive director in accordance with 30 TAC §305.65. Authorization to continue such activity will terminate upon the effective denial of said application.

E. This permit does not convey any property rights of any sort, nor any exclusive privilege, and does not become a vested right in the permittee in accordance with 30 TAC §§305.122(b) and 305.125(a)(16).

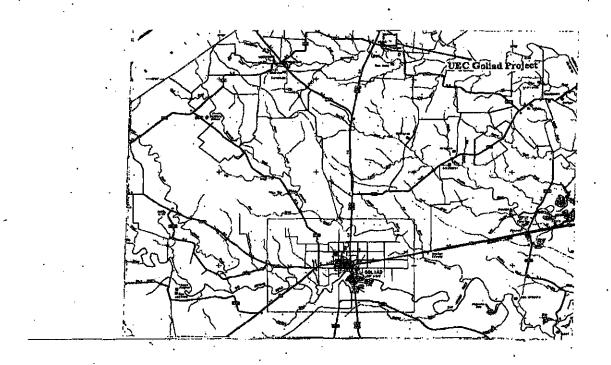
UEC Page 10

Permit No. UR03075 Goliad Project In Situ Uranium Mine

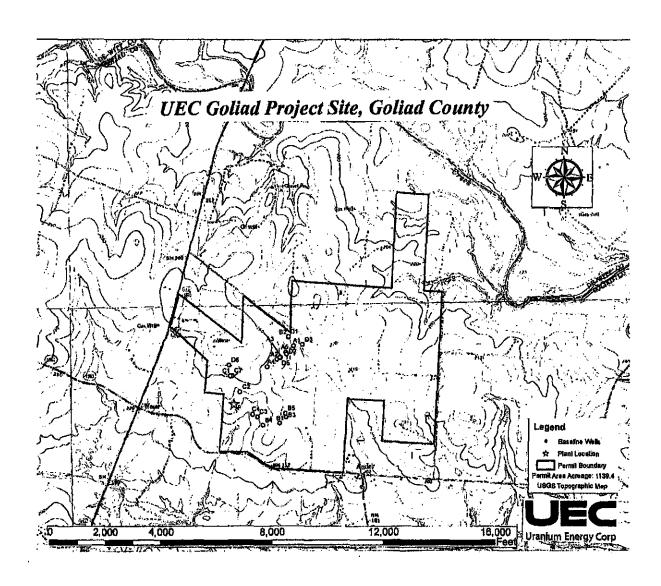
F. The issuance of this permit does not authorize any injury to persons or property or an invasion of other property rights, or any infringement of state or local law or regulations in accordance with 30 TAC §305.122(c).

G. In the event of conflict between the application, permit, rules, and statutory requirements the most stringent requirement shall apply in accordance with 30 TAC §305.154(a).

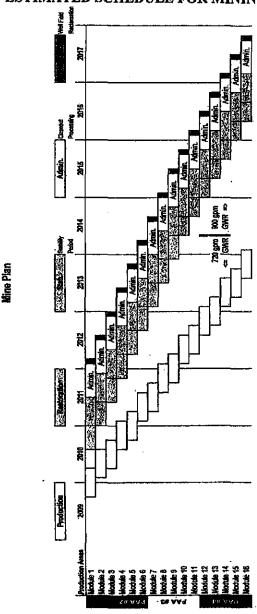
ATTACHMENT 1 PERMIT AREA MAP



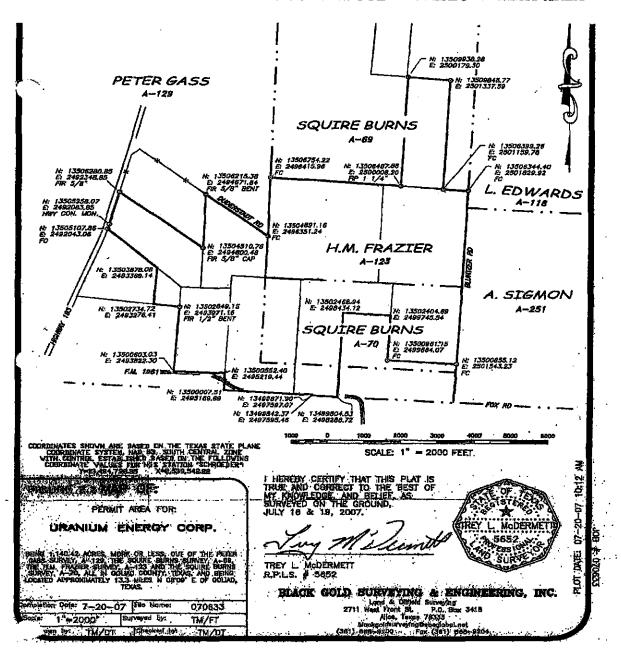
ATTACHMENT 2A MINE PLAN: MINE AREA MAP



ATTACHMENT 2B
MINE PLAN: ESTIMATED SCHEDULE FOR MINING AND RESTORATION



ATTACHMENT 3
METES AND BOUNDS DESCRIPTION OF THE GOLIAD PRIJECT PERMIT AREA



TCEQ DOCKET NO. 2008-1888-UIC

APPLICATION BY	§	BEFORE THE
URANIUM ENERGY CORP	§ §	
FOR AQUIFER EXEMPTION	§	TEXAS COMMISSION ON
DESIGNATION	§ §	ENVIRONMENTAL QUALITY

AQUIFER EXEMPTION ORDER

The Texas Commission on Environmental Quality finds that:

- 1. On August 9, 2008, Uranium Energy Corp (UEC) submitted an application for a Class III Injection Well Area Permit that includes a request for designation of an exempted aquifer.
- 2. UEC requests designation of a portion of the Goliad Formation from a depth of 45 to 404 feet, seen on the electric logs in cross sections in figure 6.8 through 6-13 in the Class III Well Area Permit application. The requested exemption extends over an area of approximately 423.8 acres in Goliad County, as illustrated in figure 1.3 in the Class III Well Area Permit application. A map depicting the extent of the exempted aquifer is attached.
- 3. The groundwater in the portion of the Goliad Formation described in Finding #2 contains an average of 568 mg/l total dissolved solids; therefore the aquifer would be considered an underground source of drinking water if it were not designated as an exempted aquifer.
- 4. UEC is an *in situ* uranium mining company and requests the designation of the exempted aquifer in conjunction with the use of the injection wells proposed to be permitted under TCEQ Permit No. UR03075 for injection of native groundwater fortified with oxygen or hydrogen peroxide, and bicarbonate ions. UEC cannot inject into the formation without the aquifer exemption.
- 5. An exempted aquifer is an aquifer or a portion of an aquifer which meets the criteria for fresh water but has been designated an exempted aquifer by the commission after notice and opportunity for hearing.
- 6. An aquifer or portion of an aquifer may be designated as an exempted aquifer if the following criteria are met:

- (1) It does not currently serve as a source of drinking water for human consumption; and
- (2) Until exempt status is removed according to 30 TAC §331.13(f), it will not in the future serve as a source for human consumption because:
 - (A) It is mineral, hydrocarbon or geothermal energy bearing with production capability;
 - (B) It is situated at a depth or location which makes recovery of water for drinking water purposes economically or technically impractical;
 - (C) It is so contaminated that it would be economically or technologically impractical to render that water fit for human consumption; or,
 - (D) It is located above a Class III well mining area subject to subsidence or catastrophic collapse.
- 7. UEC has demonstrated that the portion of the Goliad Formation described in Finding #2 does not currently serve as a source of drinking water for human consumption by conducting a data search and a ground investigation that showed that there are no water wells that withdraw water used for human consumption from the Goliad Formation within the designated area.
- 8. UEC has demonstrated that the portion of the Goliad Formation described in Finding #2 will not serve in the future as a source of drinking water for human consumption because it contains excessive amounts of radium-226 and uranium.
- 9. UEC has demonstrated with analytical data from water samples and geophysical logs that the portion of the Goliad Formation described in Finding #2 is uranium-bearing with production capability.
- 10. Notice of the aquifer exemption was issued on June 20, 2008 and June 25, 2008, published in *The Texan Express* and the *Victoria Advocate*, and mailed to the same recipients required for notice of an injection well permit application.
- 11. The notice described the process for submitting comments and requesting a hearing on the aquifer exemption.
- 12. The Executive Director of the Texas Commission on Environmental Quality provided a response to all timely, relevant and material, or significant public comments on the application.

Now, therefore, be it ordered by the Texas Commission on Environmental Quality that:

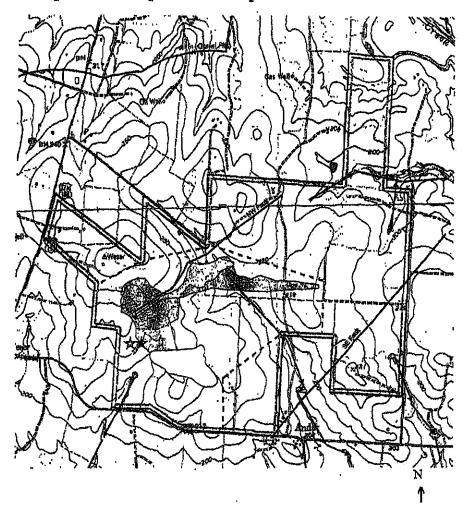
- 1. The portion of the Goliad Formation described in Finding #2 be designated as an exempted aquifer under 30 TAC § 331.13(c);
- 2. The Executive Director of the Texas Commission on Environmental Quality submit a program revision to the United States Environmental Protection Agency (EPA) under 40 CFR §§ 144.7, 146.4, and 145.32 to reflect this aquifer exemption designation for the Underground Injection Control program for the State of Texas; and
- 3. No designation of an exempted aquifer shall be final until approved by the EPA as part of the delegated Underground Injection Control Program.

Issue Date: APR 2 9 2011

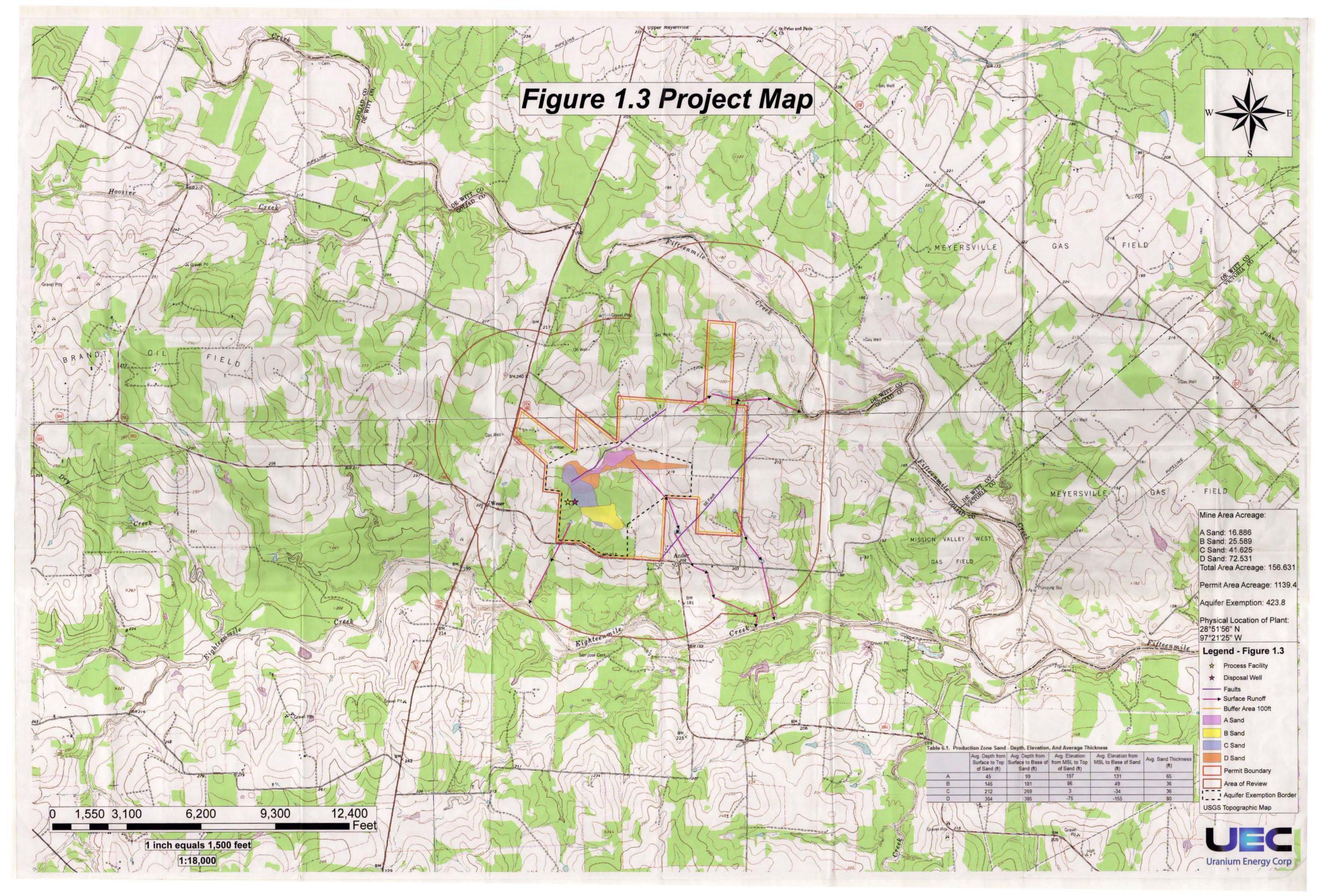
Texas Commission on Environmental Quality

Bryan W. Shaw, Ph.D., Chairman

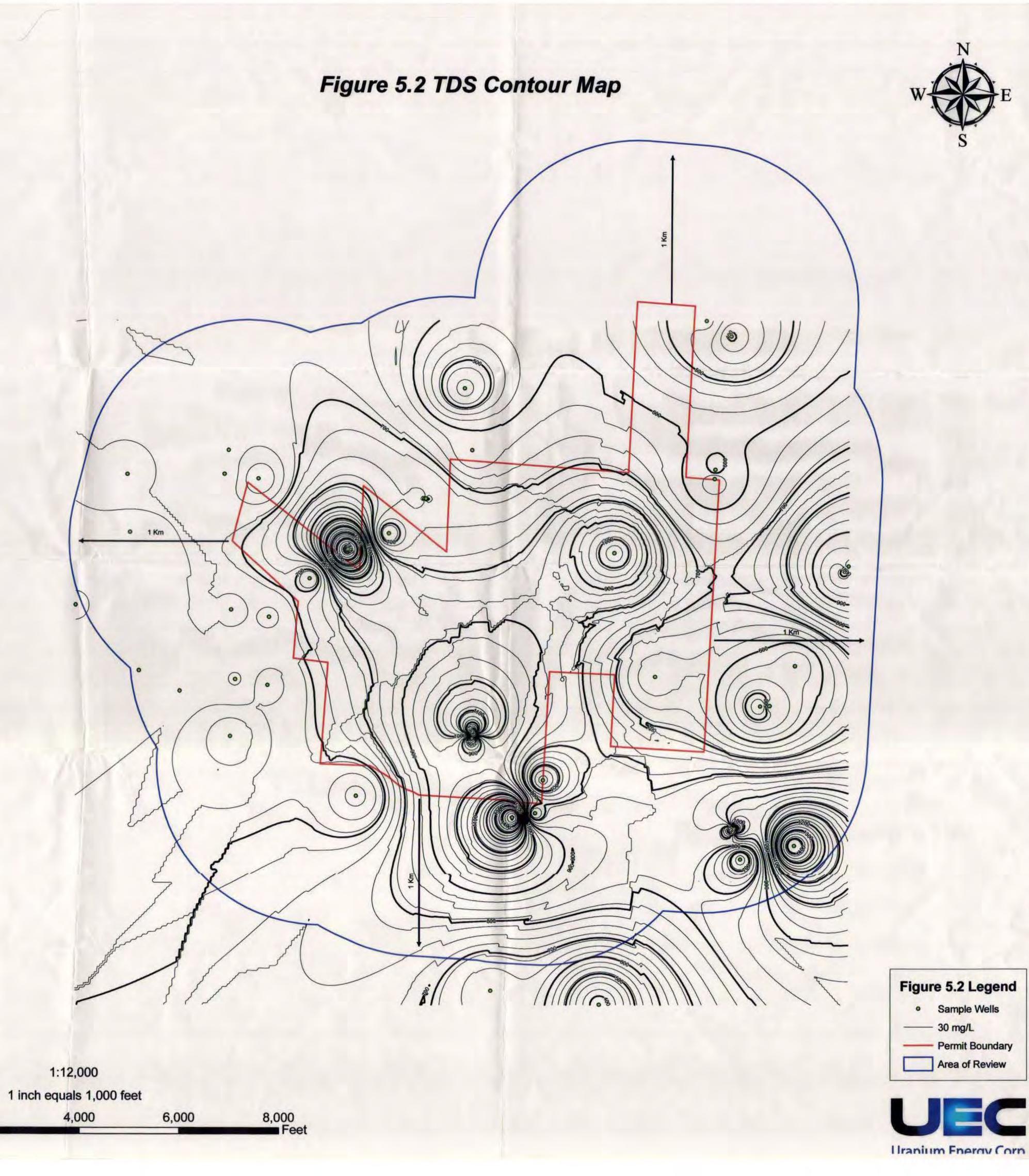
Aquifer Exemption for Proposed Permit UR03075



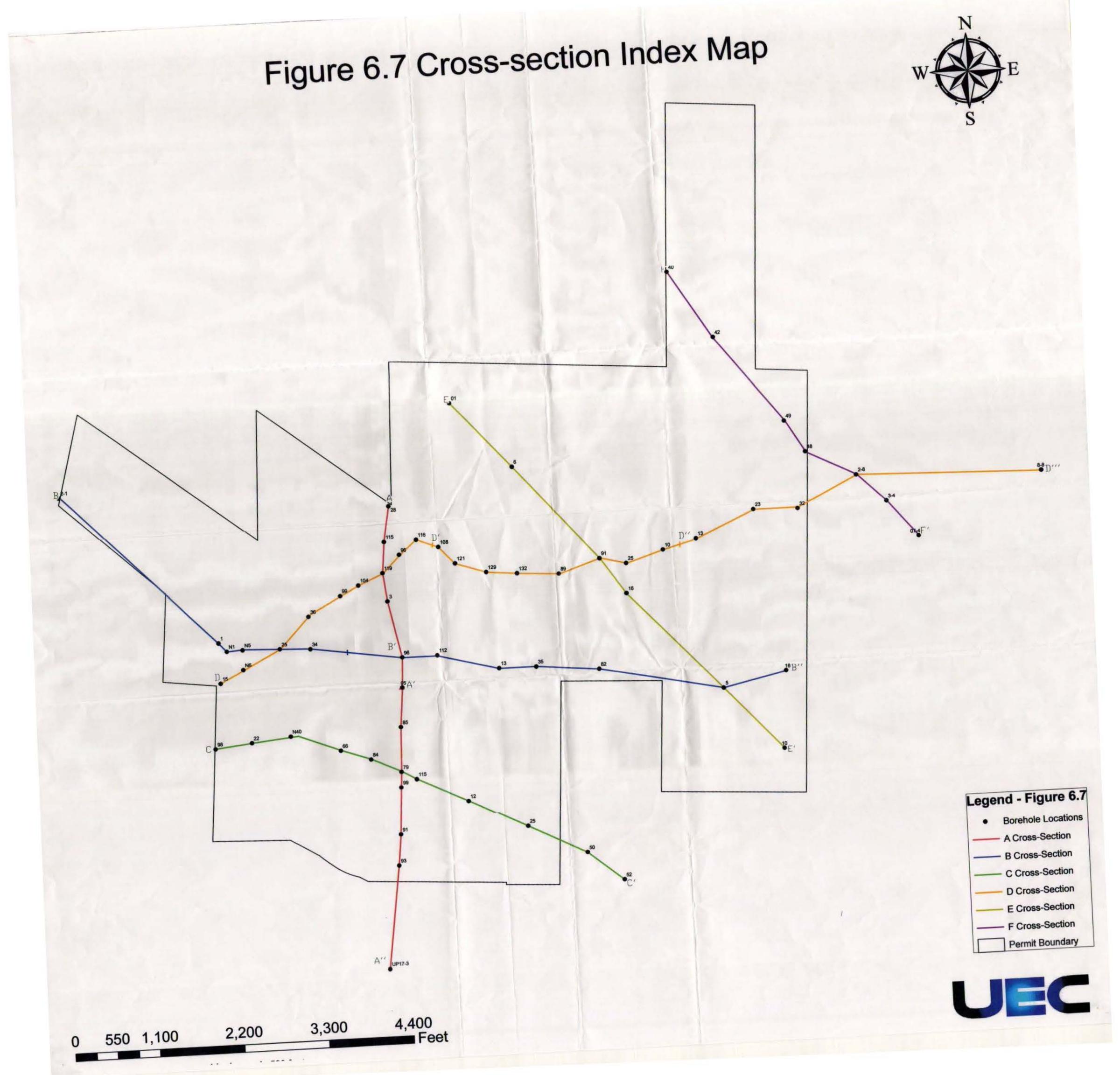
[—] permit area boundary (1139.4 acres)
— aquifer exemption boundary (423.8 acres)
The aquifer exemption applies to the Goliad Formation from a depth of 45 feet to 404 feet within the permit area in Goliad County.

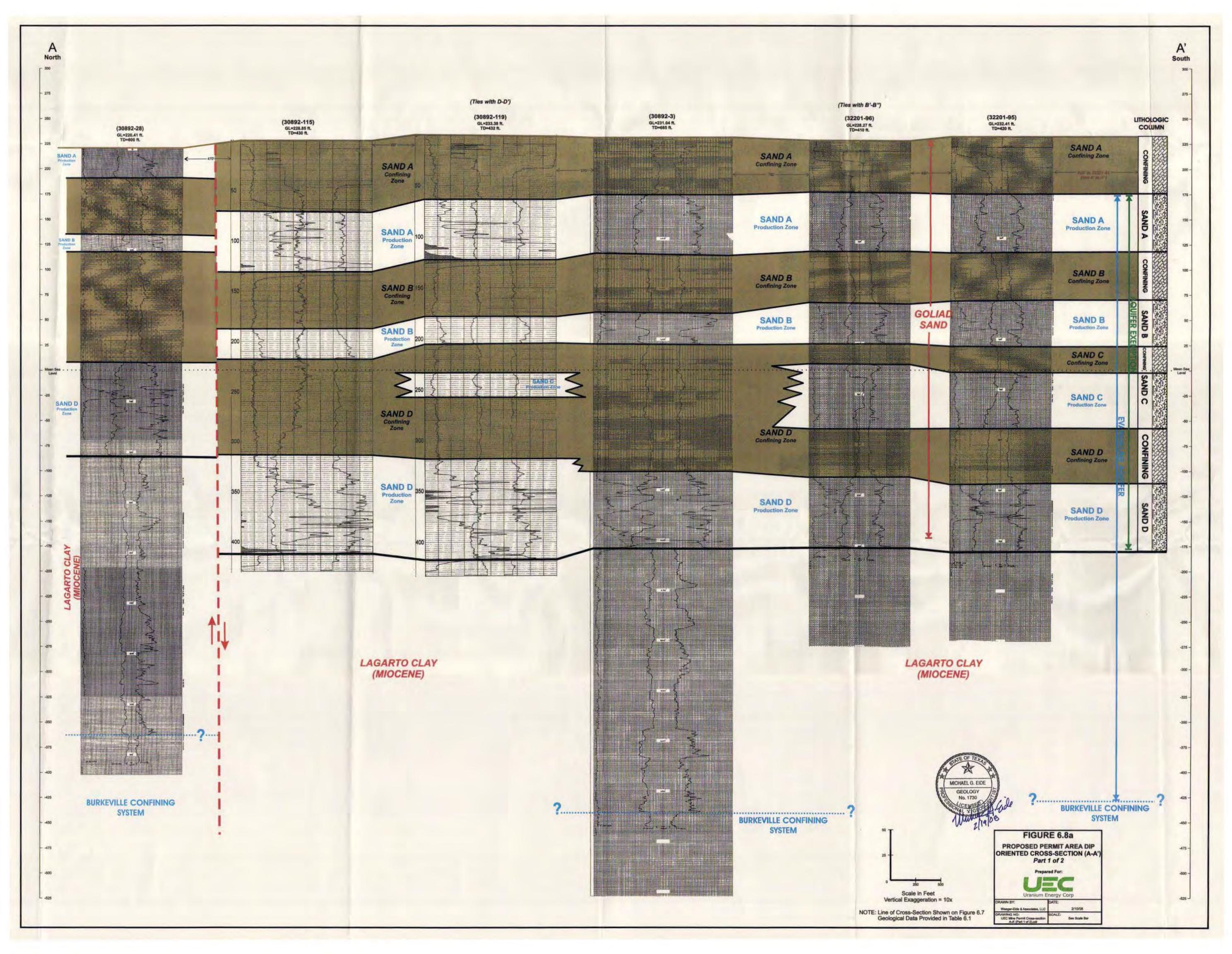


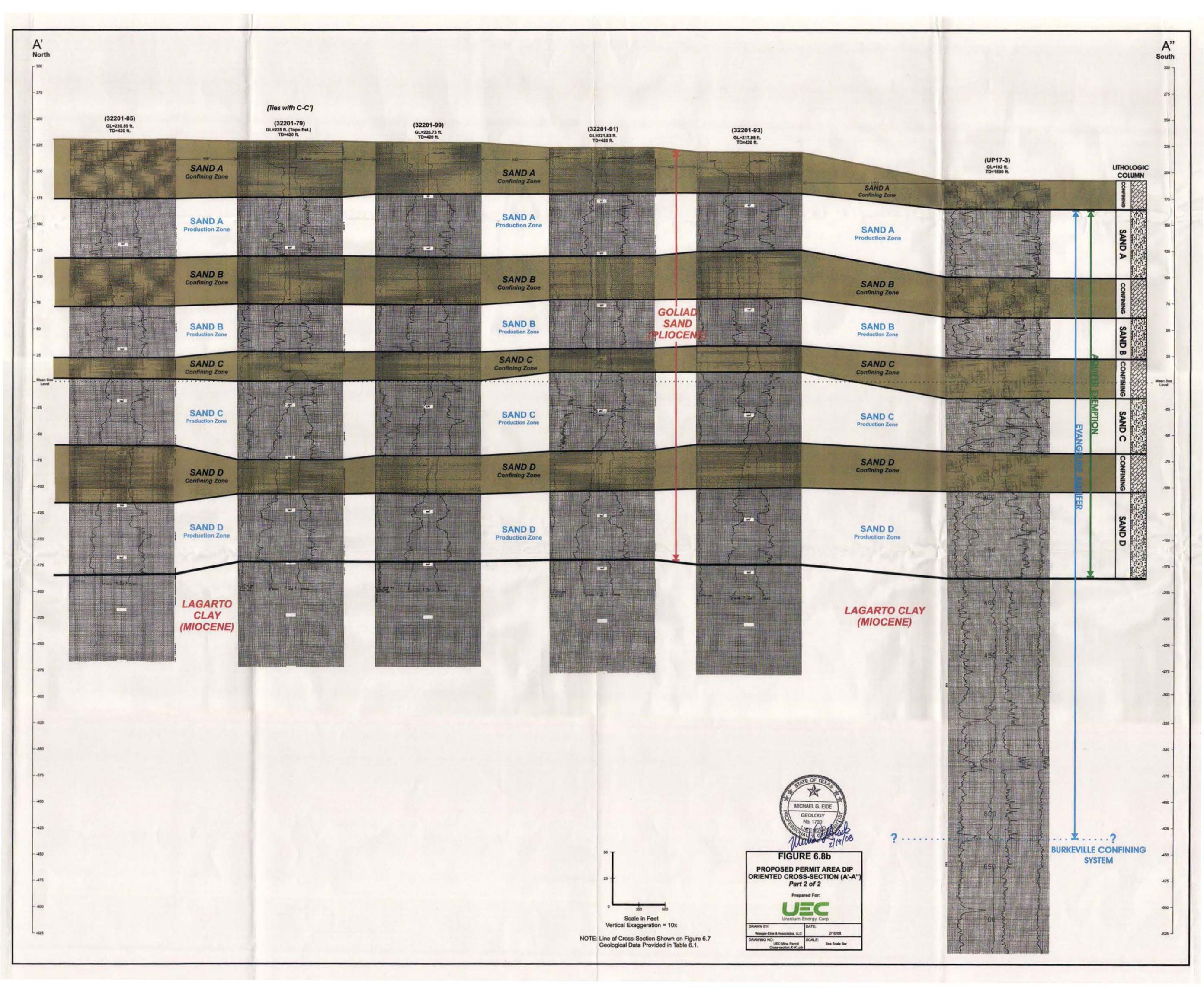


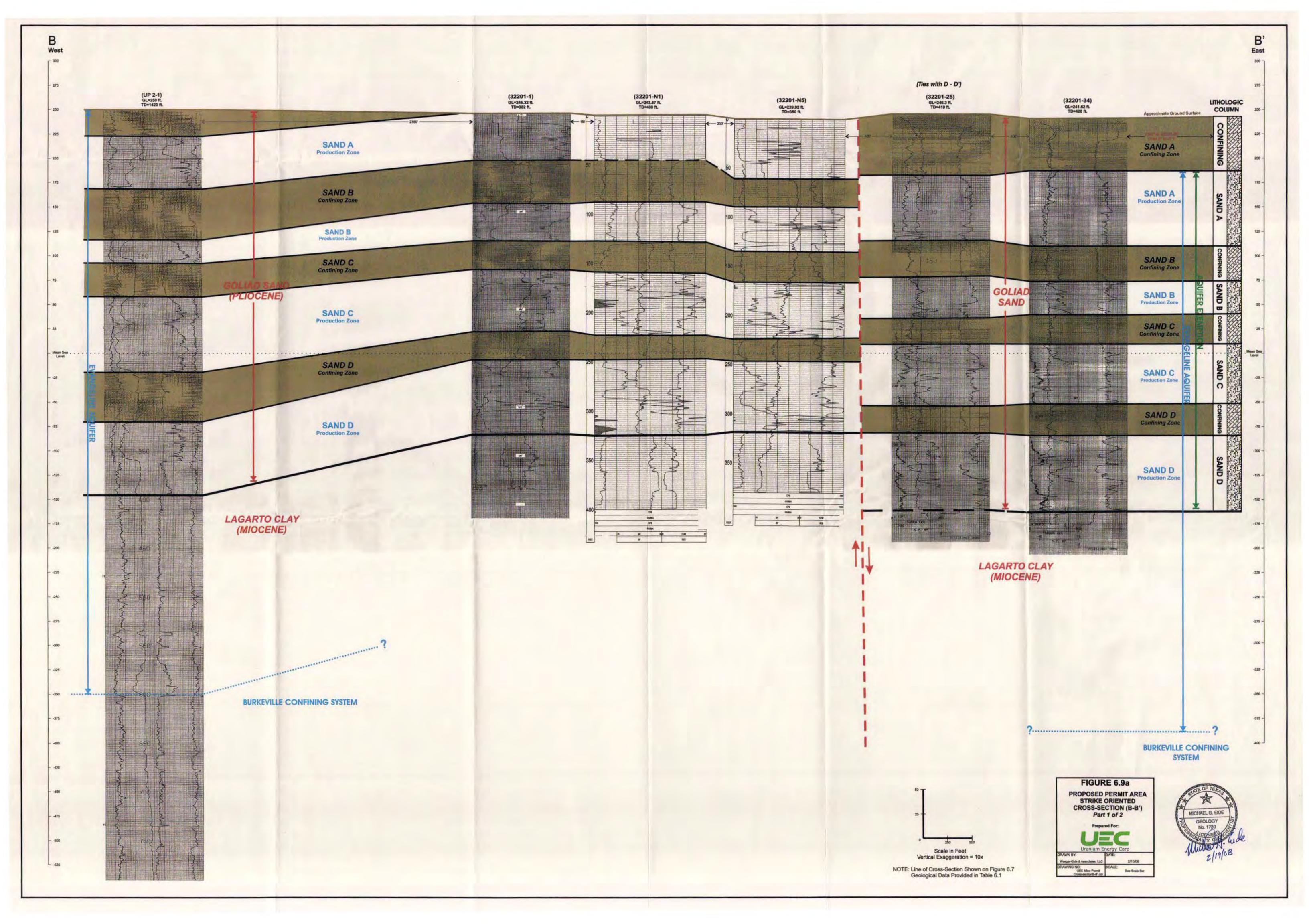


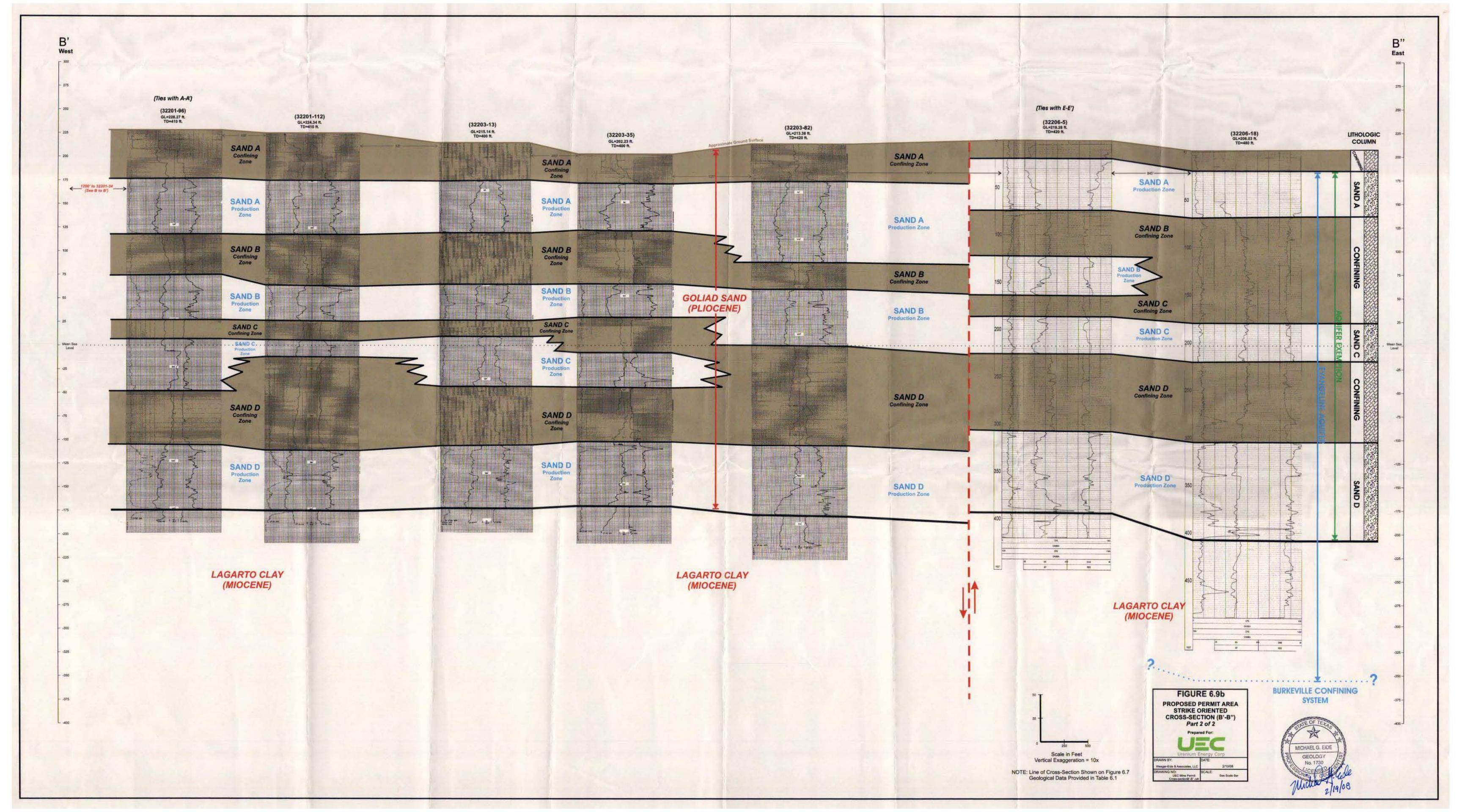
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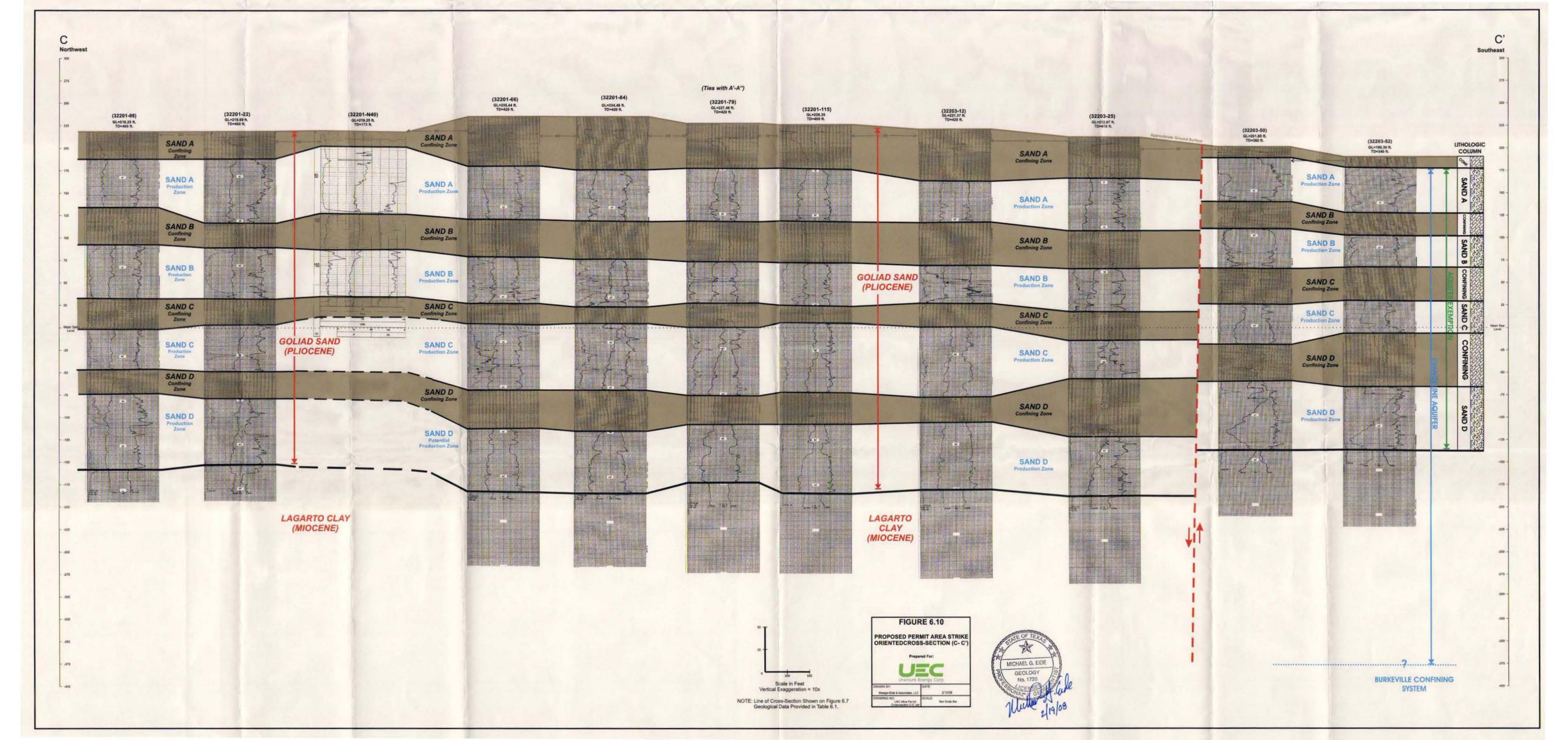


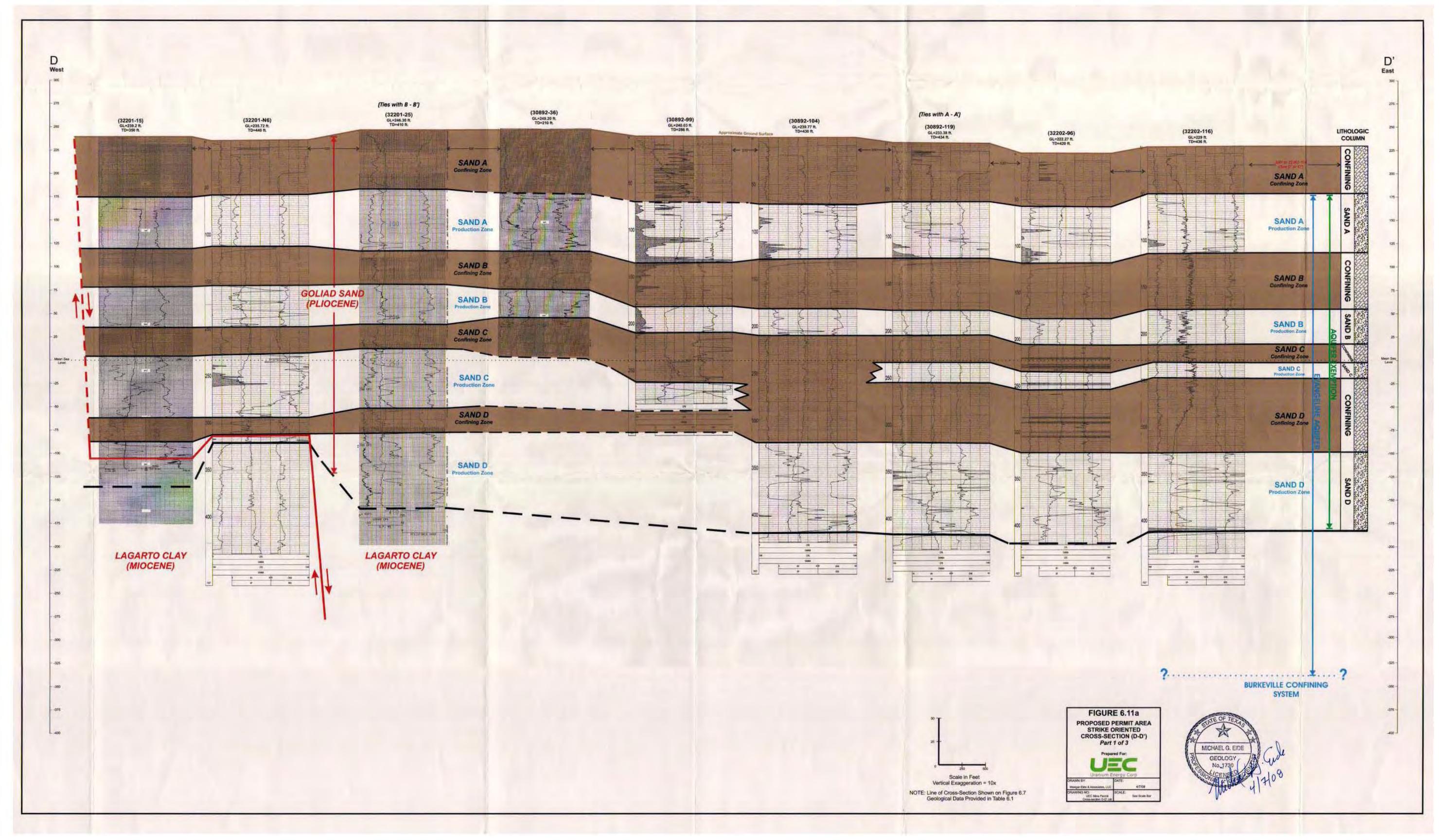


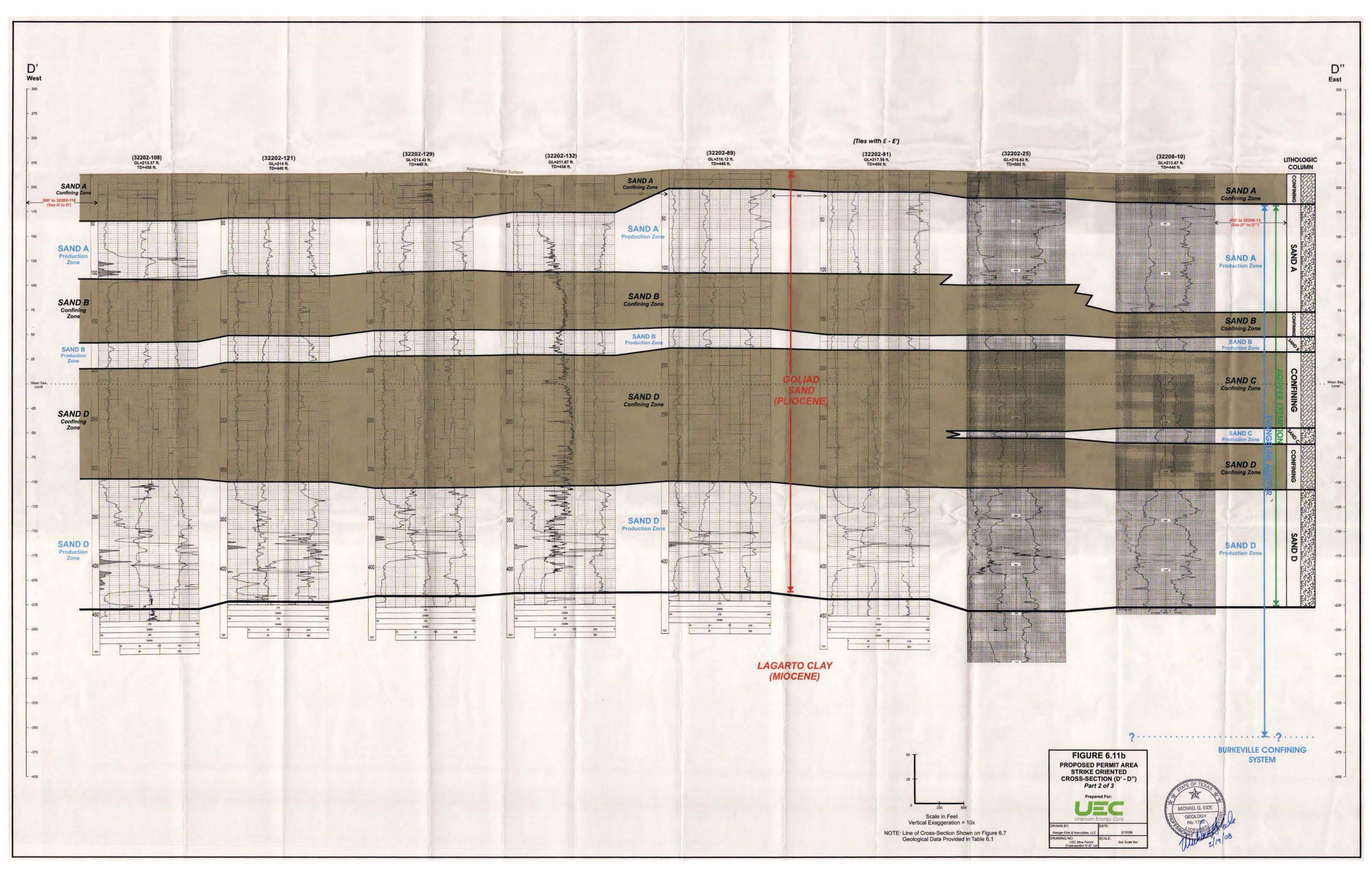


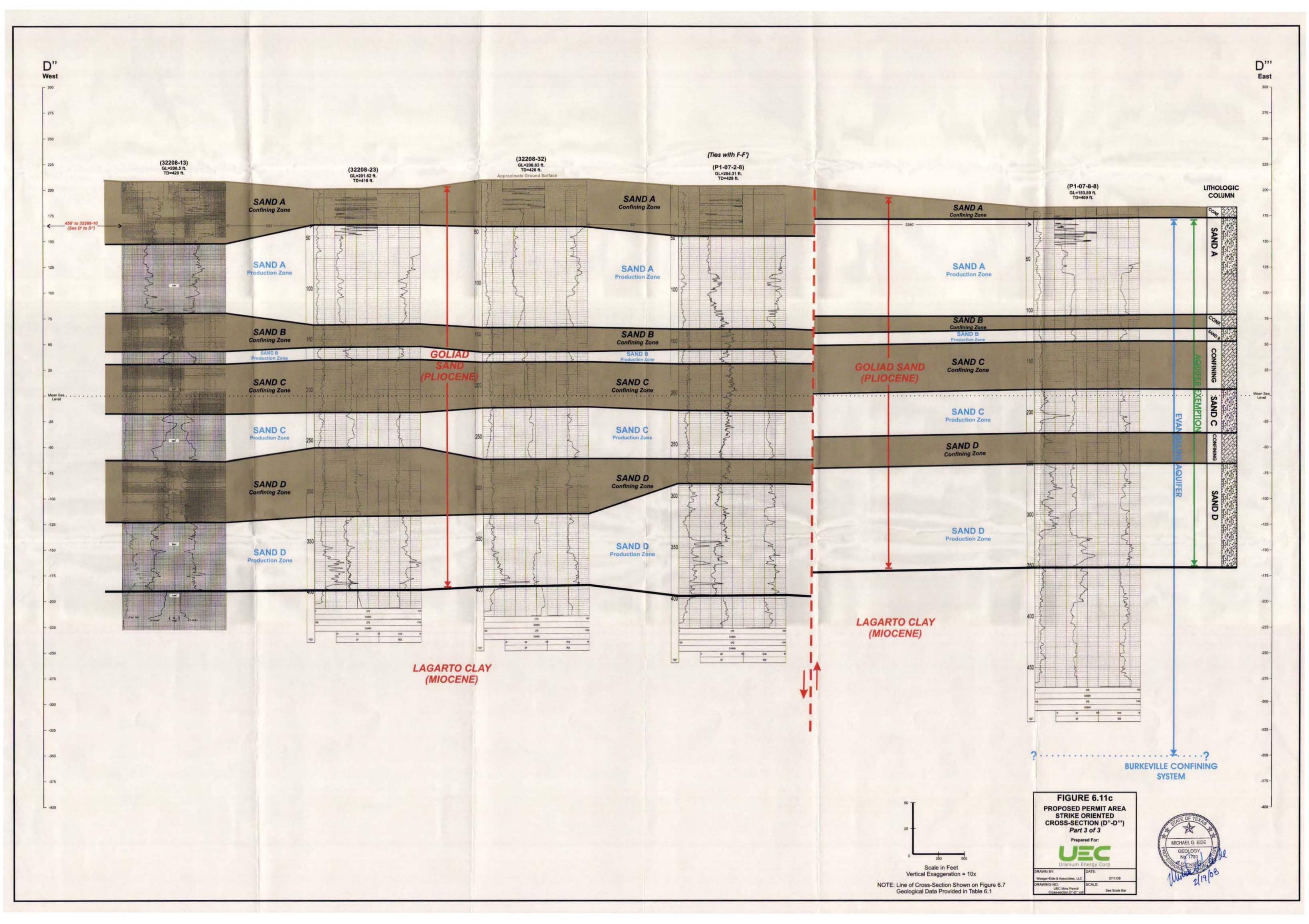


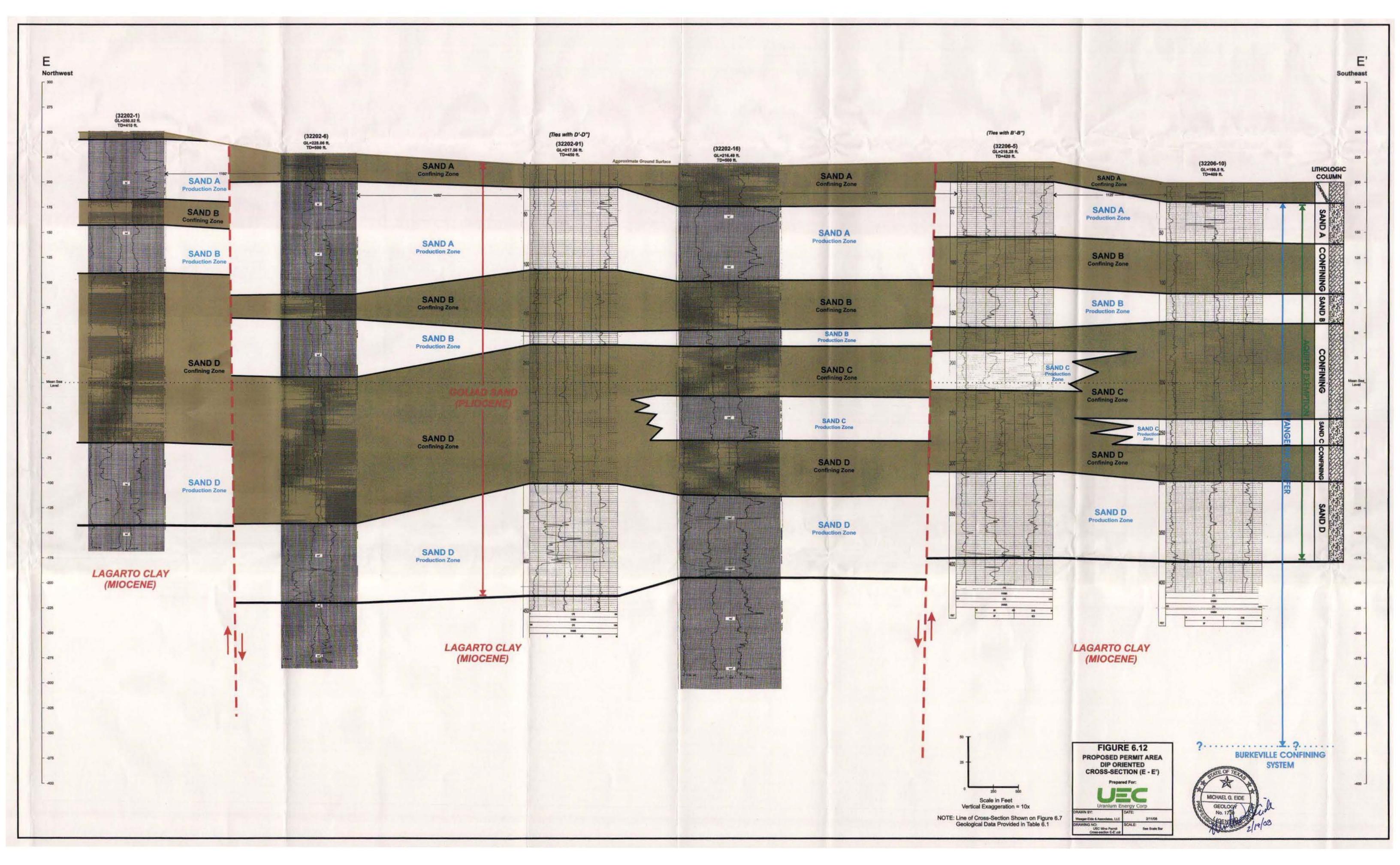


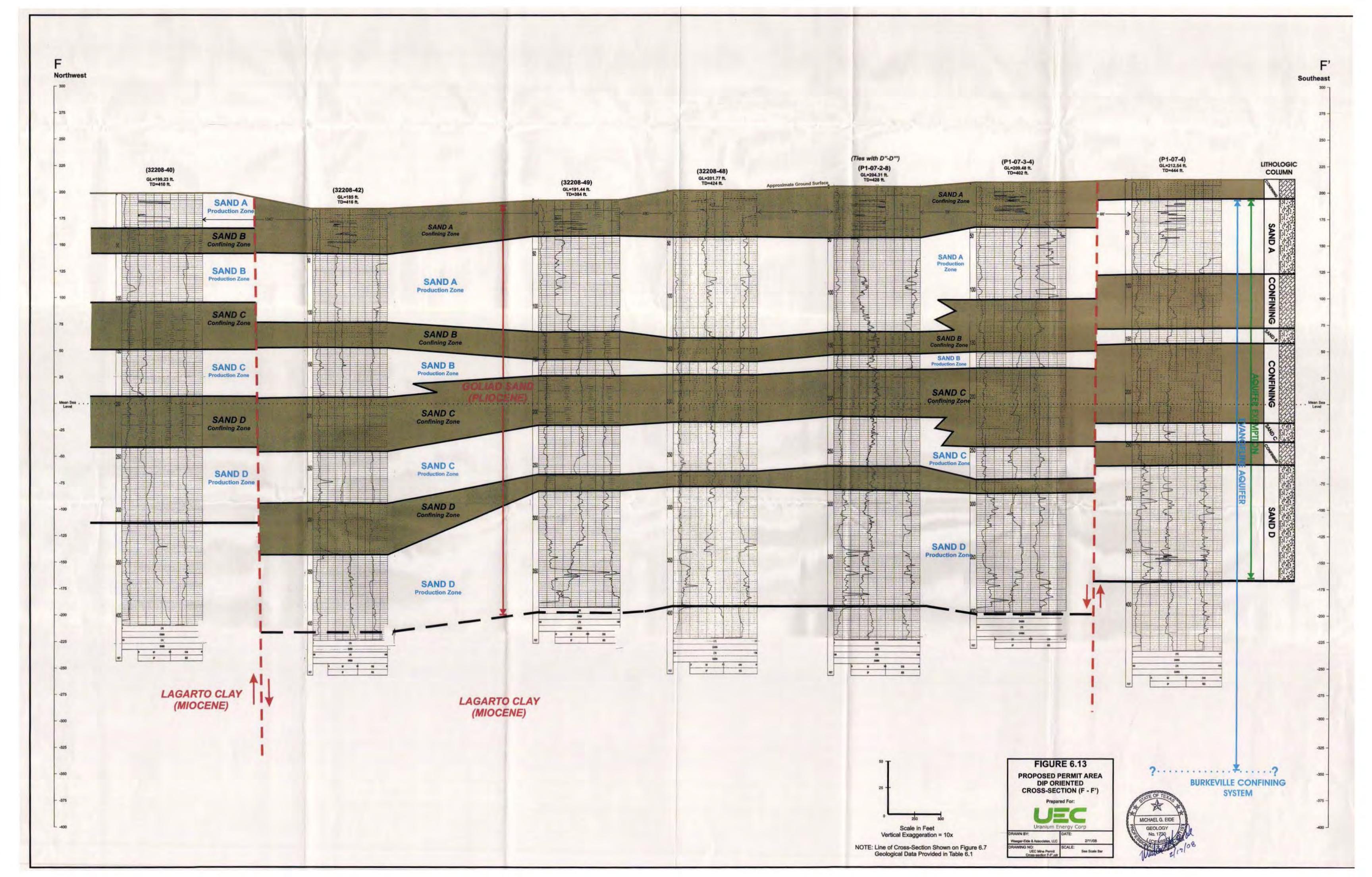


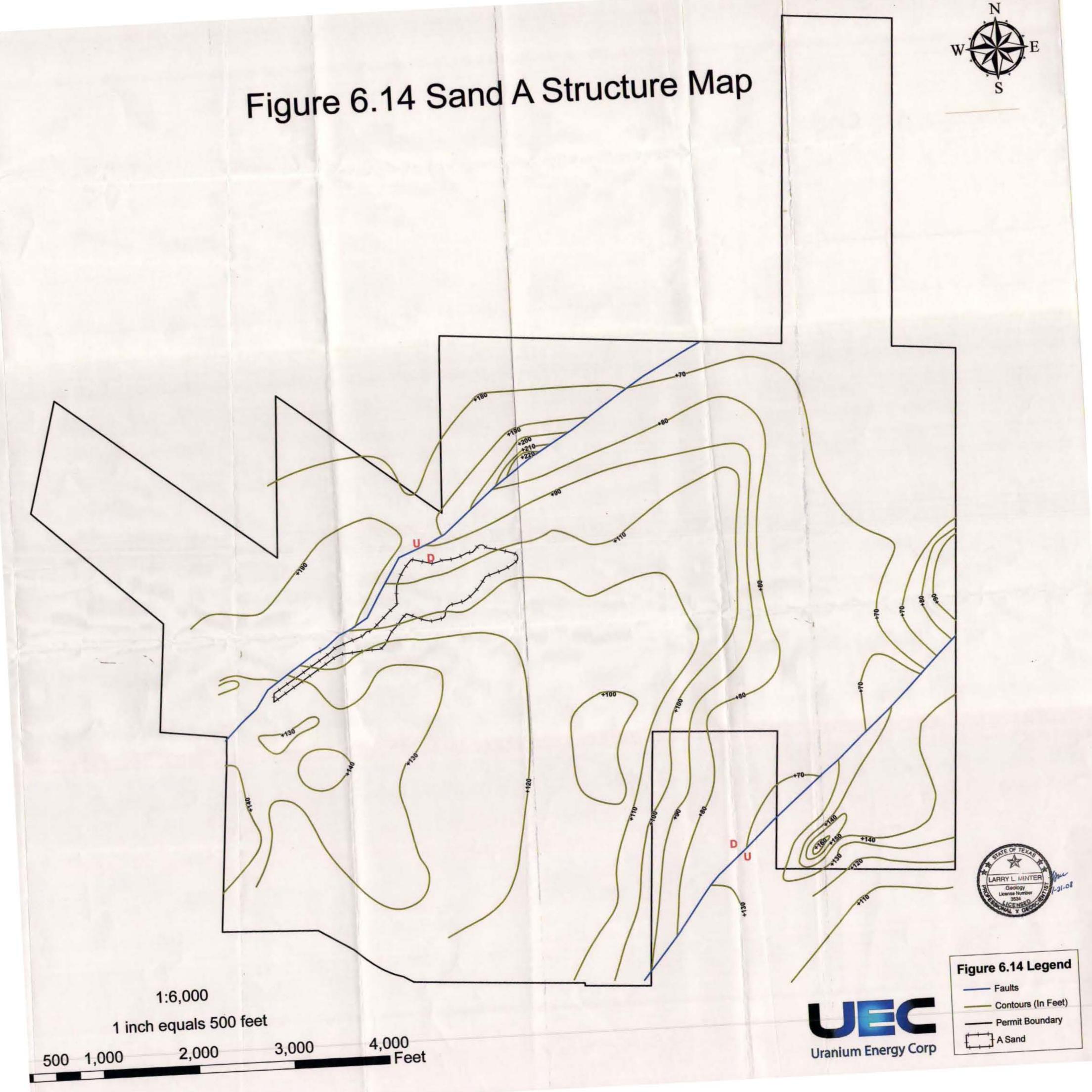


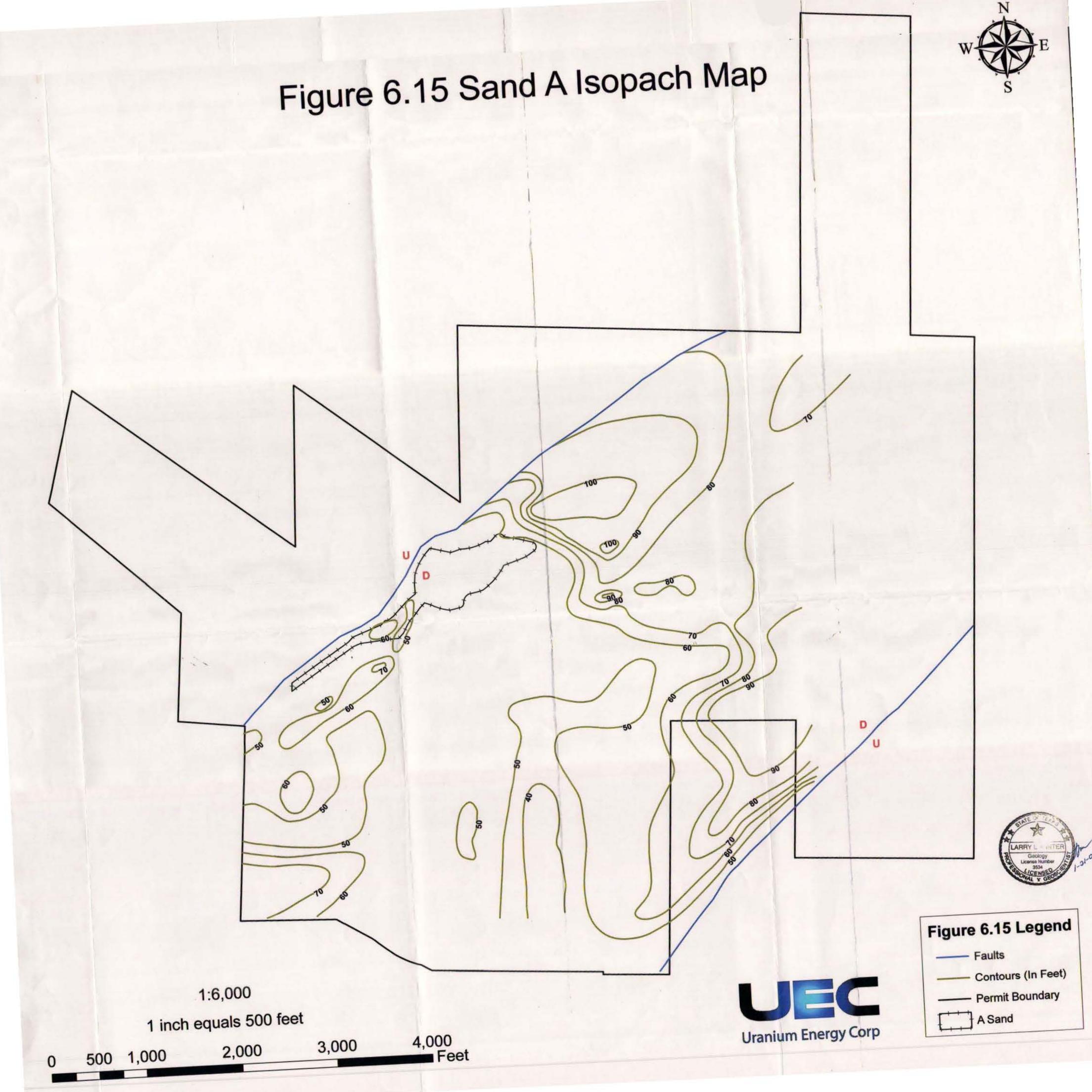


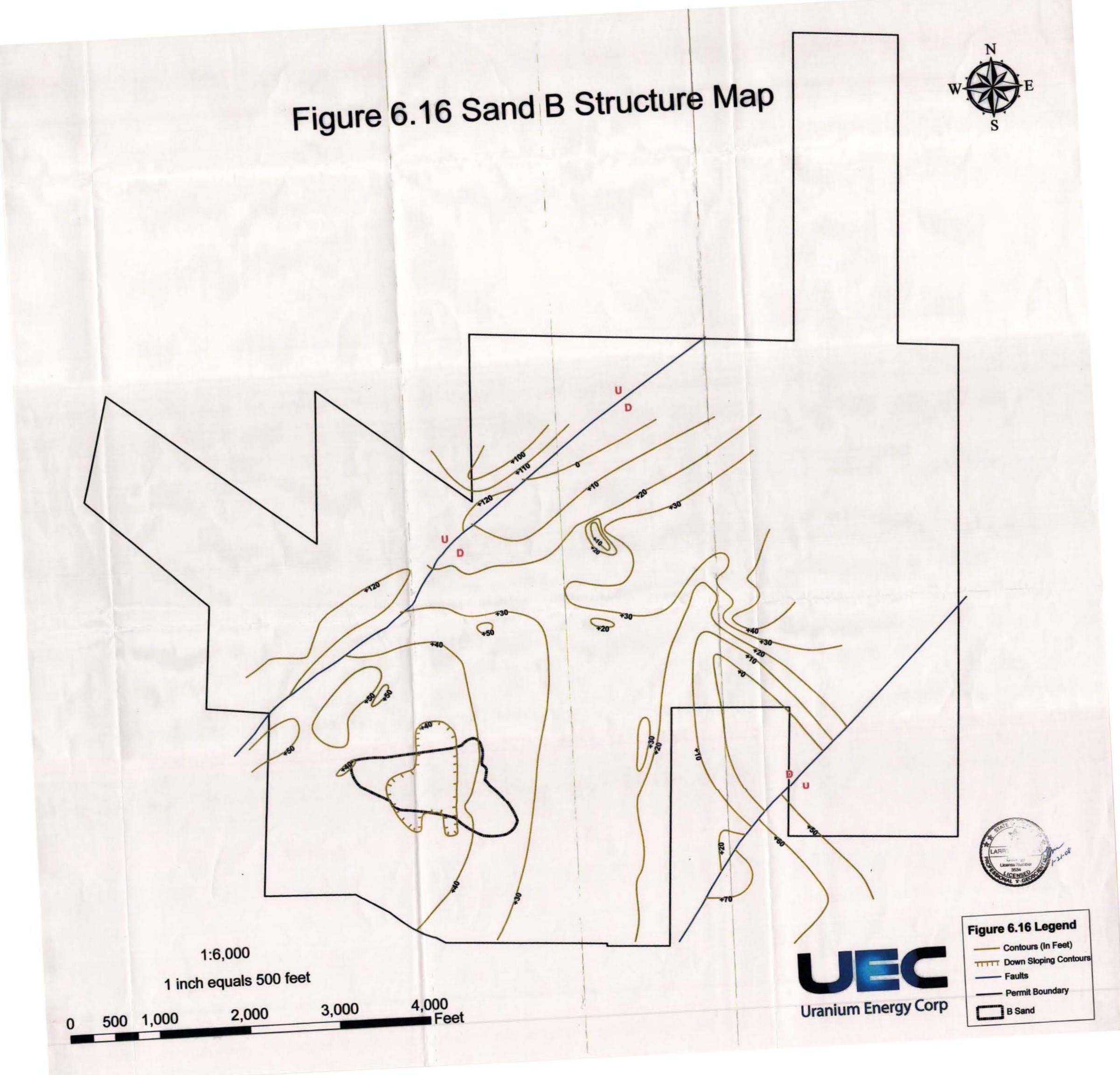


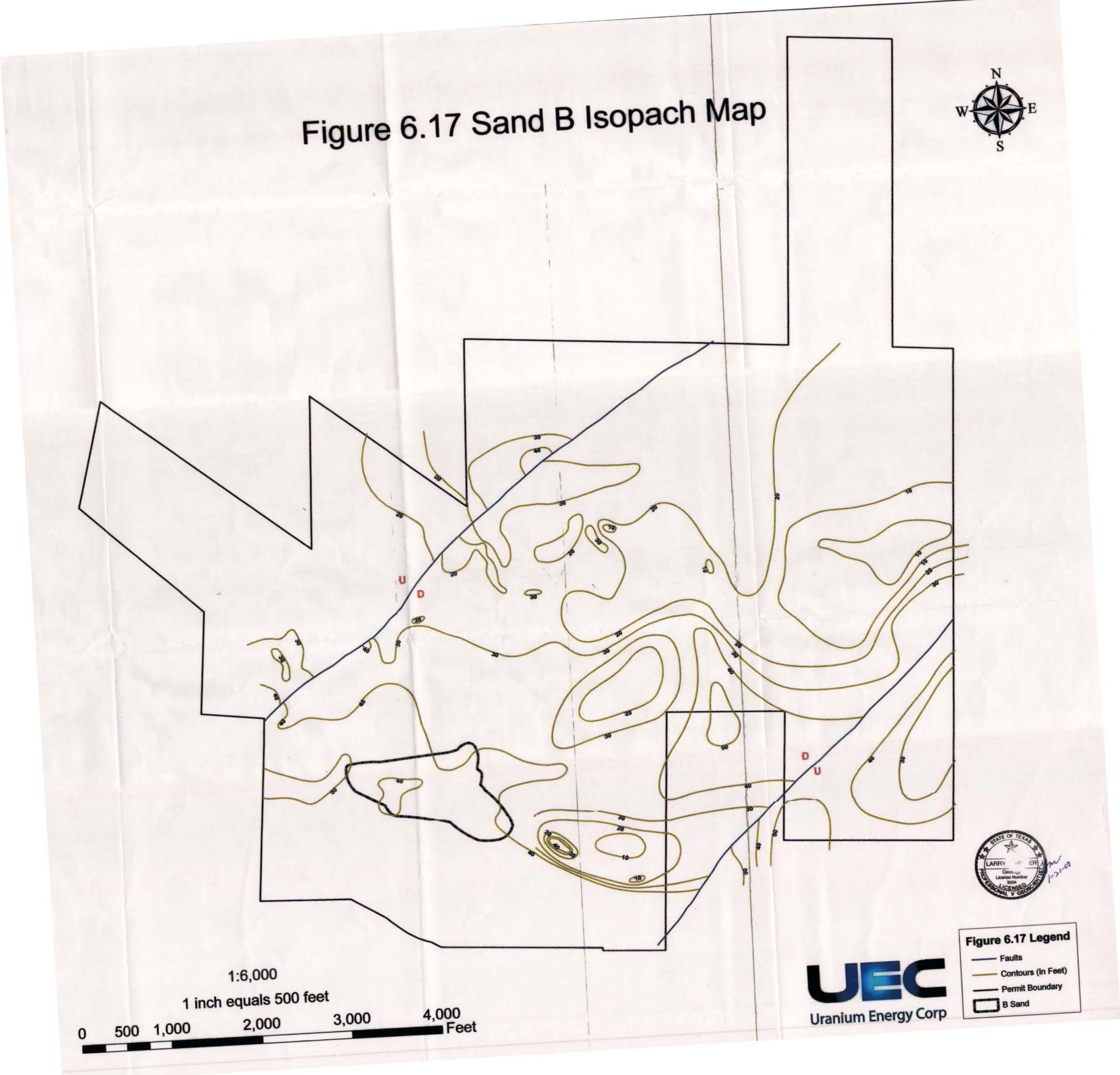


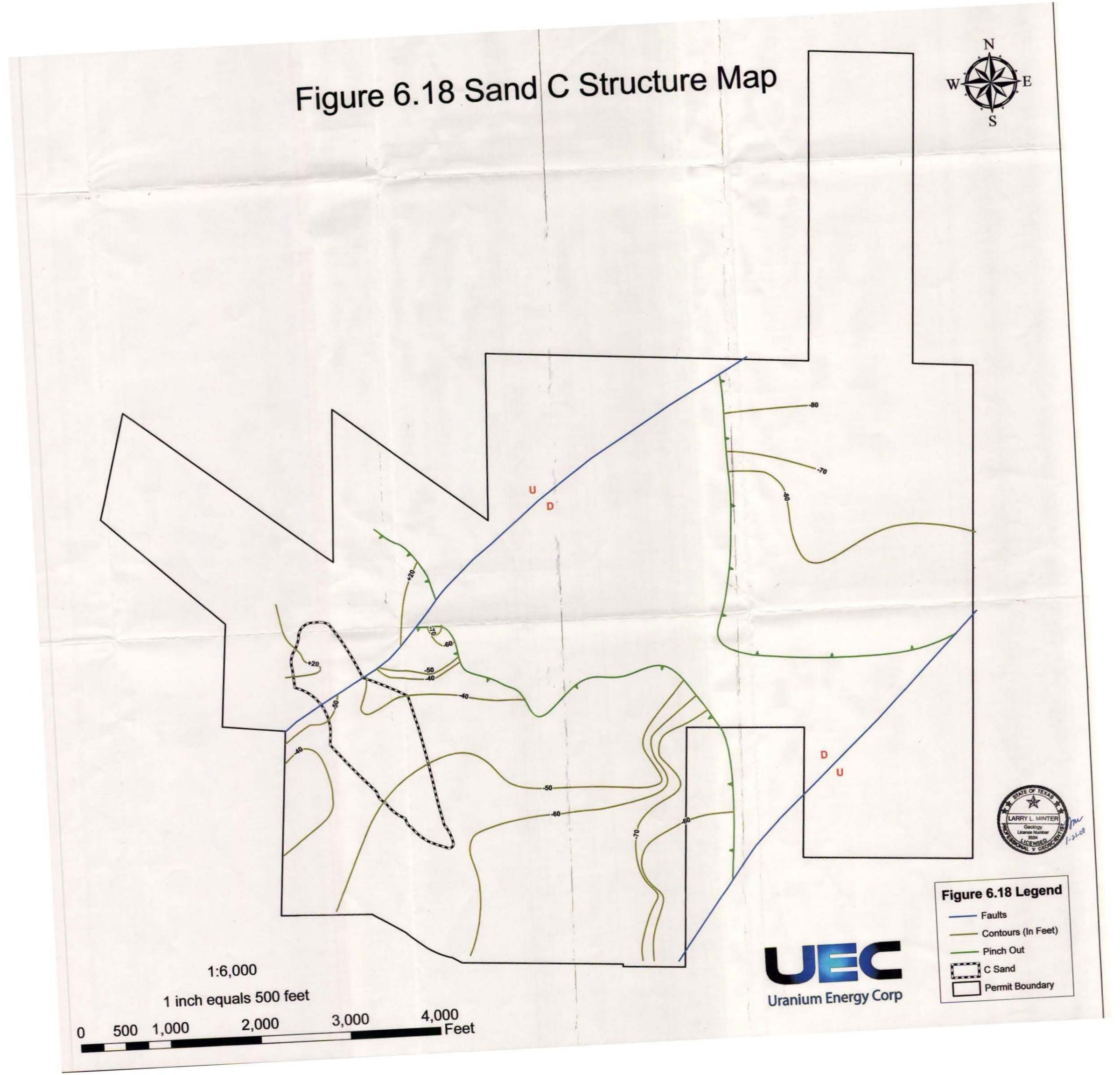


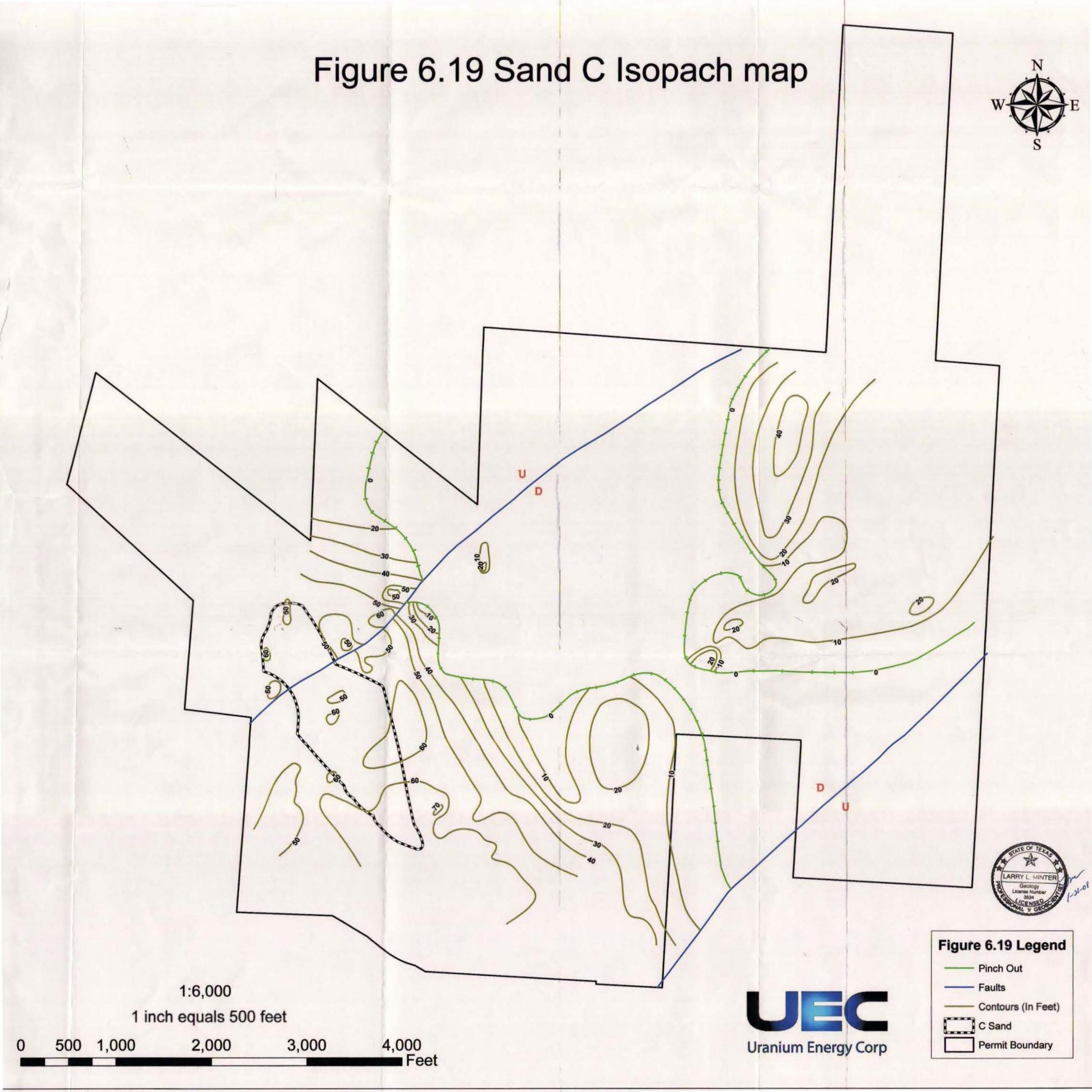


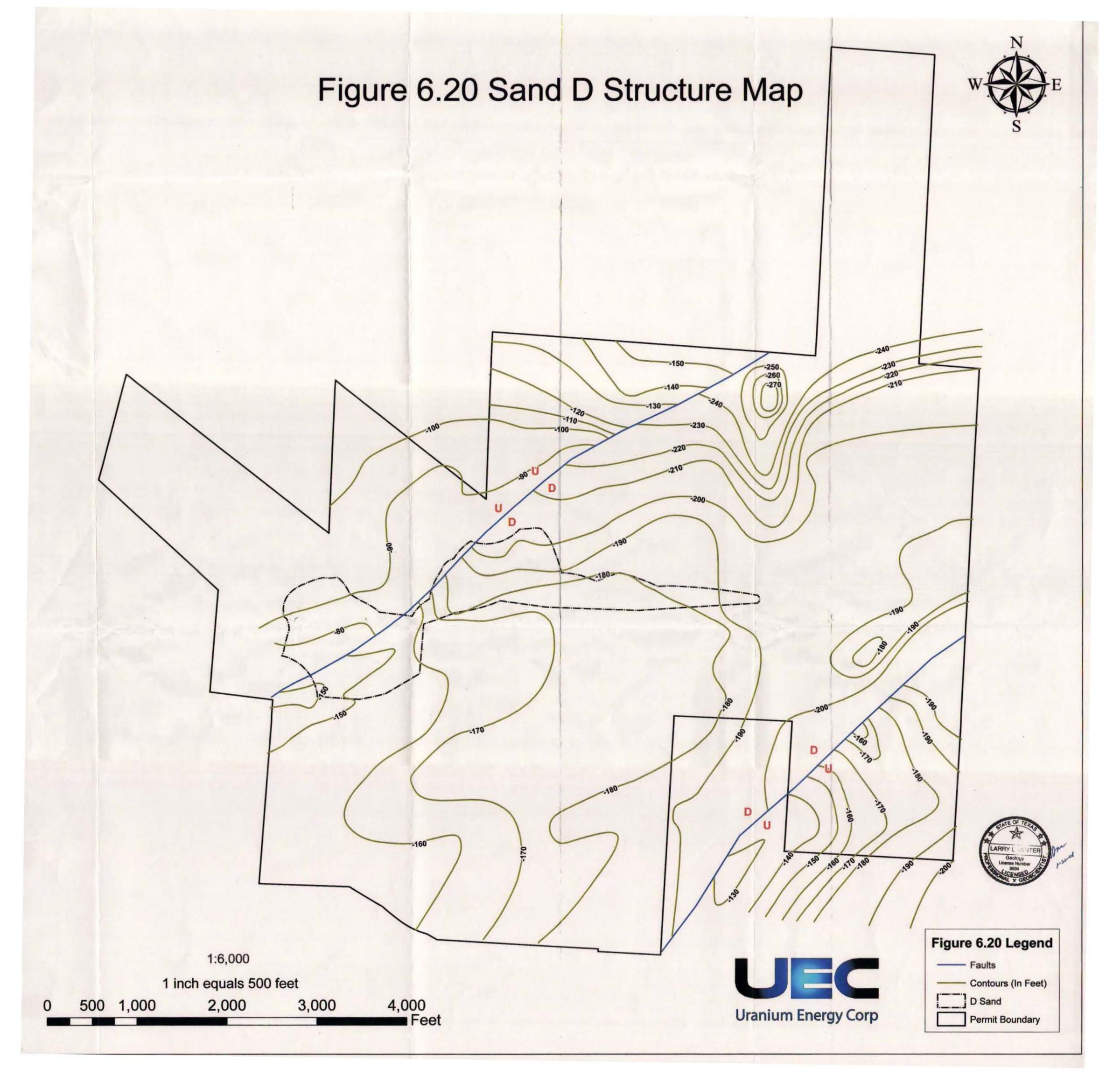


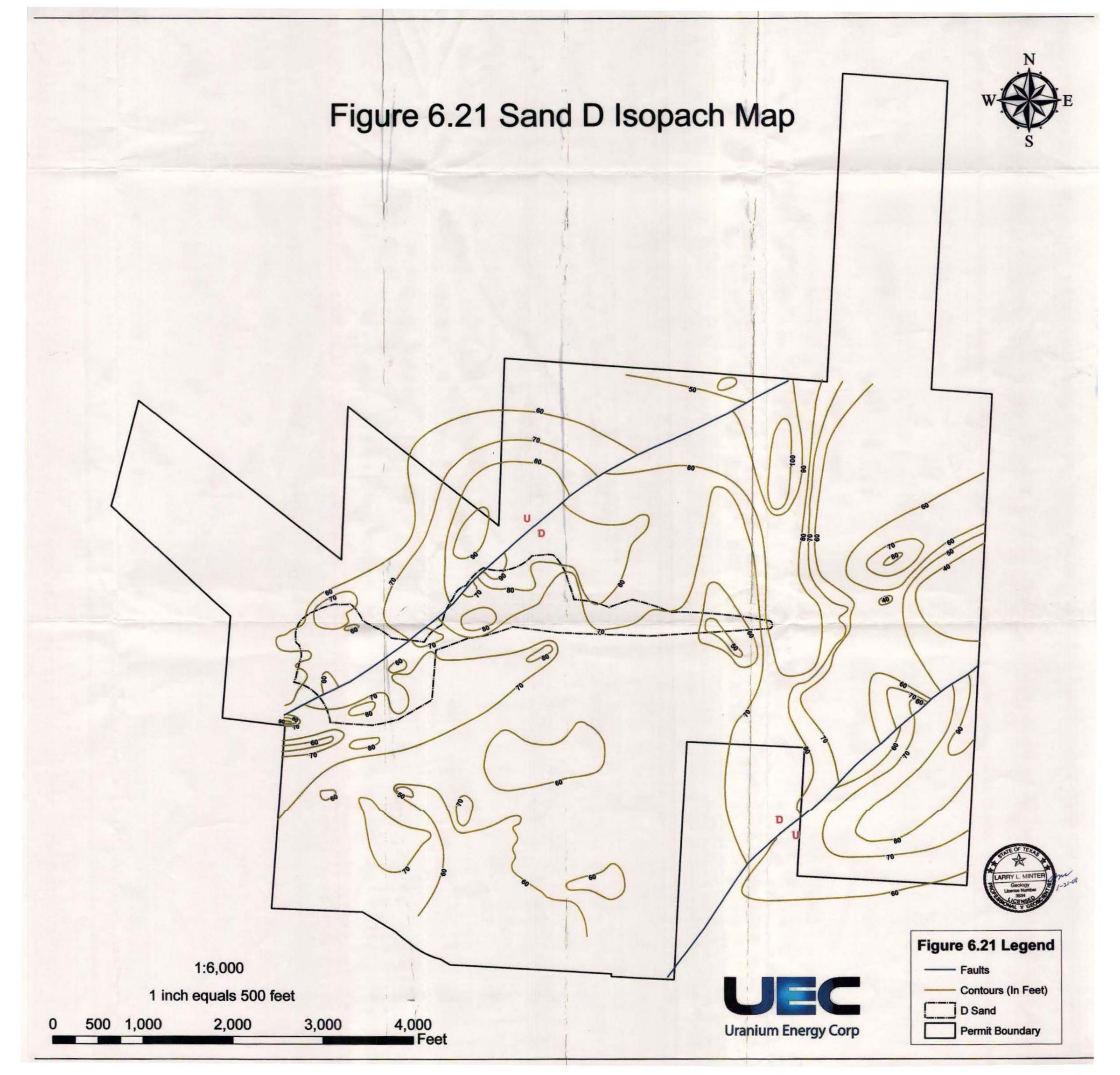


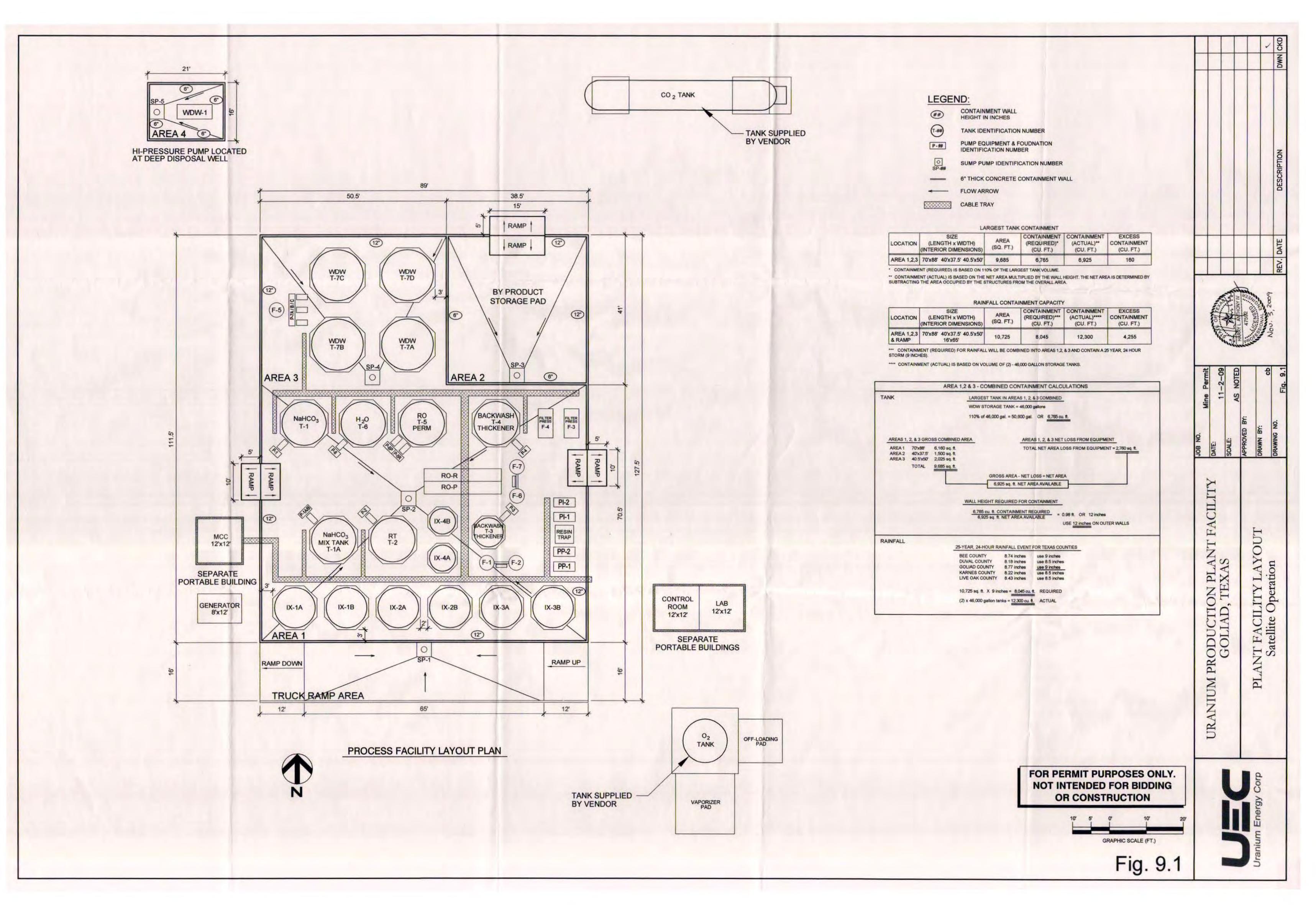


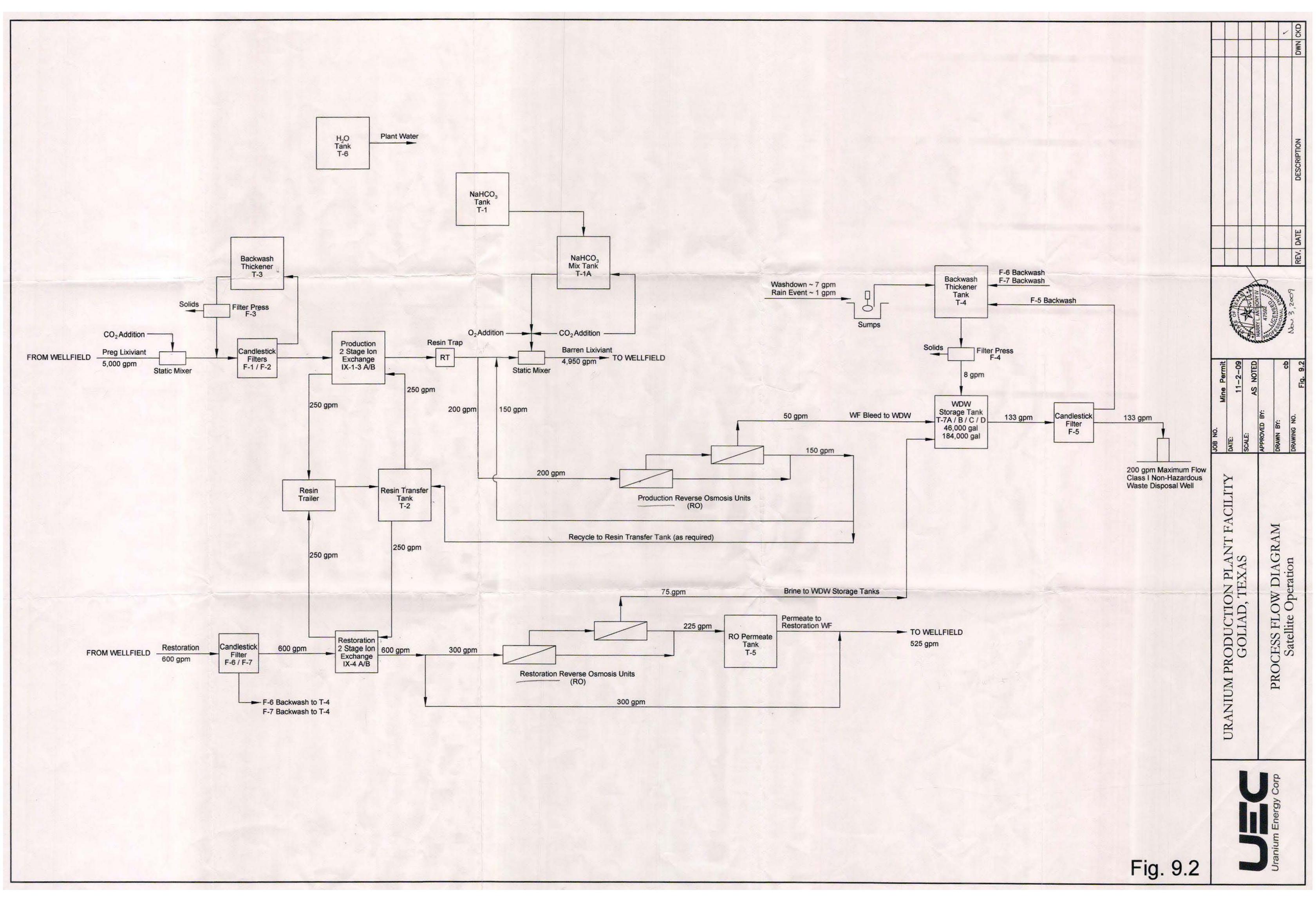










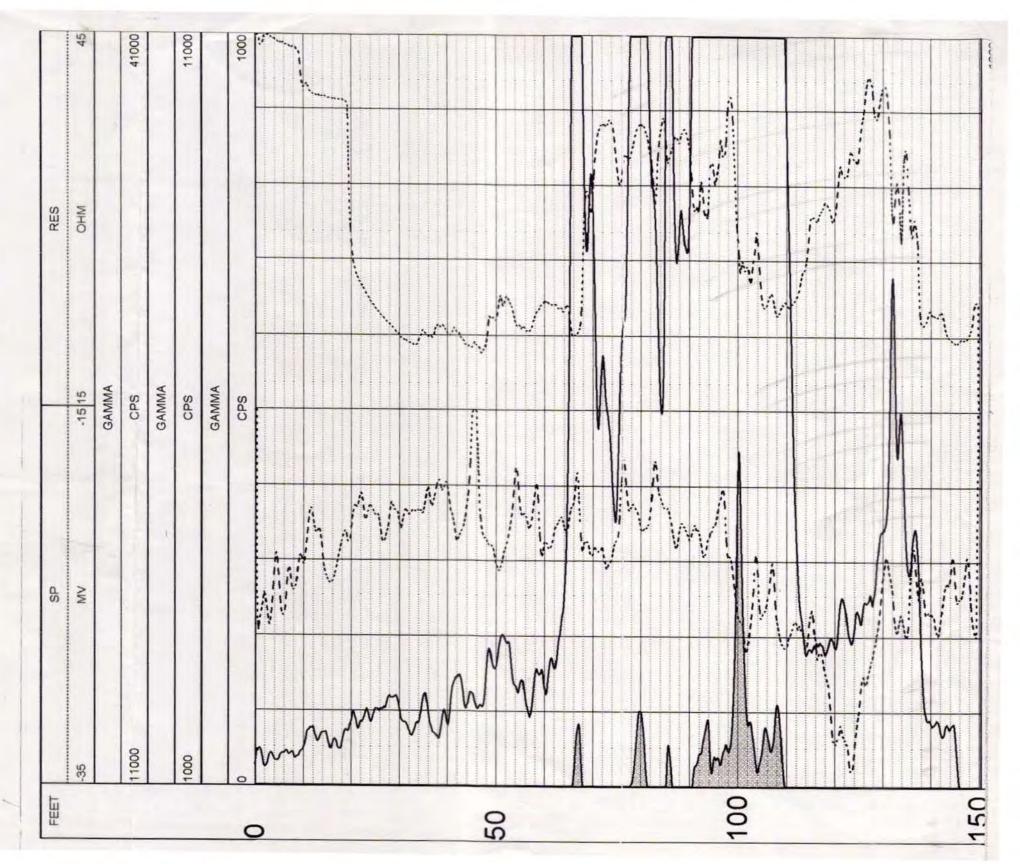




GAMMA-SP-RES

30892-124

COMPANY	URANIUM ENERGY CORP.		
WELL	30892-124		OTHER SERVICES
FIELD	:WESER/ANDER		N/A N/A
COUNTY	GOLIAD		N/A
STATE	:TEXAS		N/A
LOCATION	‡		
SECTION	N/A		
TOWNSHIP	N/A		10
RANGE	N/A		
API NO.	1		
UNIQUE WELL ID.	1		
PERMANENT DATUM	GL	ELEVATION KB N/A	
LOG MEASURED FRO	M:GL	ELEVATION DF N/A	
DRL MEASURED FRO	M:GL	ELEVATION GL N/A	
DATE	:01/11/08	-	
DEPTH DRILLER	:150		
BIT SIZE	4.75		
LOG TOP	:4.90		
LOG BOTTOM	:150.20		
CASING OD	N/A		
CASING BOTTOM	N/A		
CASING TYPE	N/A		
BOREHOLE FLUID	:WATER		
RM TEMPERATURE	.0		
MUD RES	0		
MUD WEIGHT	1		
WITNESSED BY	J. POLLOCK		
RECORDED BY	B. MATAS		
REMARKS 1	:		
REMARKS 2	PETE MHC		



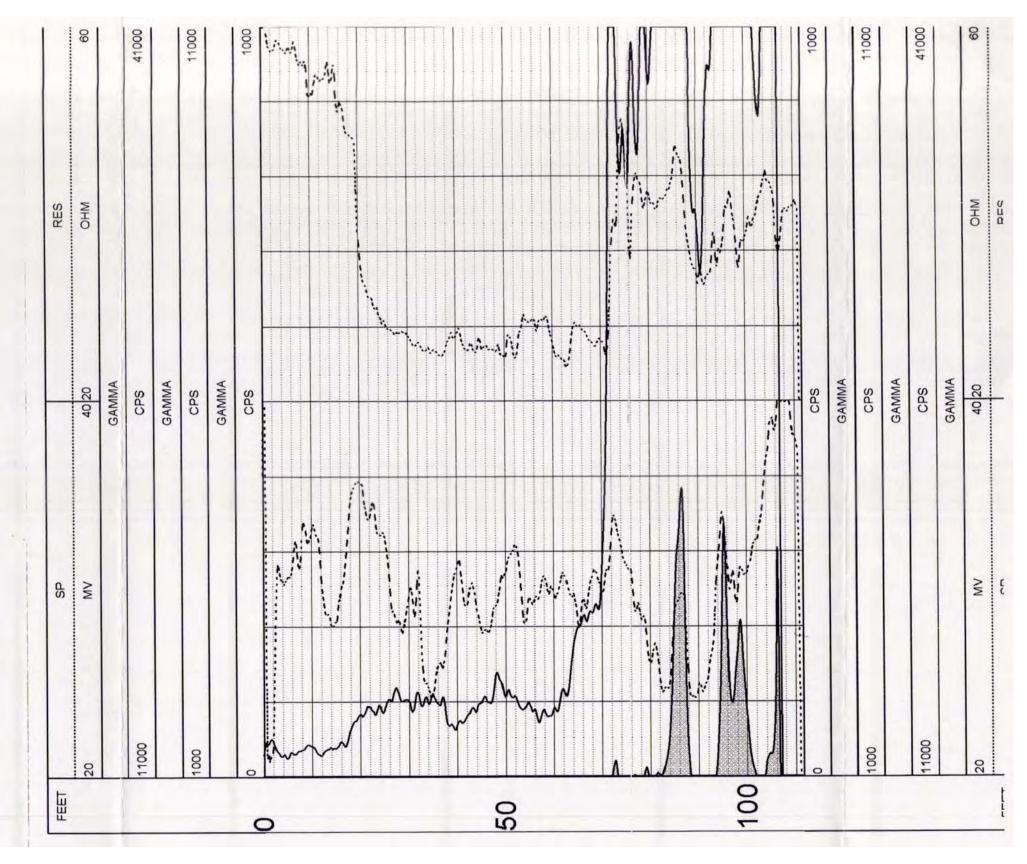


GAMMA-SP-RES

30892-125

COMPANY URANIUM ENERGY CORP. OTHER SERVICES WELL 30892-125 N/A FIELD :WESER/ANDER N/A COUNTY :GOLIAD N/A STATE :TEXAS LOCATION SECTION N/A TOWNSHIP N/A RANGE APINO. UNIQUE WELL ID. PERMANENT DATUM :GL **ELEVATION KB N/A** LOG MEASURED FROM:GL **ELEVATION DF N/A** DRL MEASURED FROM GL **ELEVATION GL N/A** :01/15/08 DEPTH DRILLER :112 :4.75 BIT SIZE LOG TOP -5.20 LOG BOTTOM :111.40 CASING OD N/A CASING BOTTOM N/A CASING TYPE N/A BOREHOLE FLUID :WATER RM TEMPERATURE MUD RES MUD WEIGHT WITNESSED BY J. POLLOCK RECORDED BY B. MATAS REMARKS 1 REMARKS 2 PETE MHC

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS





GAMMA-SP-RES

30892-126

URANIUM ENERGY CORP. COMPANY OTHER SERVICES: 30892-126 WELL N/A FIELD WESER/ANDER N/A GOLIAD COUNTY N/A TEXAS STATE LOCATION N/A SECTION N/A TOWNSHIP RANGE NIA APINO. UNIQUE WELL ID PERMANENT DATUM GL **ELEVATION KB N/A** LOG MEASURED FROM GL **ELEVATION DF N/A** DRL MEASURED FROM GL **ELEVATION GL N/A** .01/14/08 DATE DEPTH DRILLER :110 BIT SIZE 4.75 LOG TOP -5.40 LOG BOTTOM 110.40 CASING OD NIA CASING BOTTOM N/A CASING TYPE N/A :WATER BOREHOLE FLUID RM TEMPERATURE MUD RES MUD WEIGHT J. POLLOCK WITNESSED BY RECORDED BY B. MATAS **REMARKS 1** REMARKS 2 PETE MHC ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS

